



Service Science

Publication details, including instructions for authors and subscription information:
<http://pubsonline.informs.org>

Quality of University Services: Dimensional Structure of SERVQUAL VS. ESQS

Carmen María Salvador-Ferrer,

To cite this article:

Carmen María Salvador-Ferrer, (2010) Quality of University Services: Dimensional Structure of SERVQUAL VS. ESQS. Service Science 2(3):167-176. <https://doi.org/10.1287/serv.2.3.167>

Full terms and conditions of use: <https://pubsonline.informs.org/Publications/Librarians-Portal/PubsOnLine-Terms-and-Conditions>

This article may be used only for the purposes of research, teaching, and/or private study. Commercial use or systematic downloading (by robots or other automatic processes) is prohibited without explicit Publisher approval, unless otherwise noted. For more information, contact permissions@informs.org.

The Publisher does not warrant or guarantee the article's accuracy, completeness, merchantability, fitness for a particular purpose, or non-infringement. Descriptions of, or references to, products or publications, or inclusion of an advertisement in this article, neither constitutes nor implies a guarantee, endorsement, or support of claims made of that product, publication, or service.

Copyright © 2010, INFORMS

Please scroll down for article—it is on subsequent pages



With 12,500 members from nearly 90 countries, INFORMS is the largest international association of operations research (O.R.) and analytics professionals and students. INFORMS provides unique networking and learning opportunities for individual professionals, and organizations of all types and sizes, to better understand and use O.R. and analytics tools and methods to transform strategic visions and achieve better outcomes. For more information on INFORMS, its publications, membership, or meetings visit <http://www.informs.org>

Quality of University Services: Dimensional Structure of SERVQUAL VS. ESQS

Carmen María Salvador-Ferrer
Department of Social Psychology
University of Almería
La Cañada de San Urbano, s/n
04120 Almería, Spain
cmsalva@ual.es

Analysis of service quality from the perspective of the customer has generated much attention. The scale most used to develop such studies is the SERVQUAL. This tool has undergone much criticism, mainly focusing on the situational instability shown by the dimensions in certain cases. This work does not reject the proposals of that instrument, but attempts to improve its internal consistency and assess its dimensional structure. To do this, the *Enlarged Service Quality Scale* (ESQS) has been designed and applied to the university context. The ESQS is mainly characterized by compensating the number of items in all the dimensions, seeking better intra-dimensional consistency. The results confirm the applicability of this scale in non-educational university services, show considerable improvement in its consistency and, further, indicate that the traditional dimensions of SERVQUAL can be reduced and clustered in the macro categories, interactive quality and physical quality. The data also demonstrate the importance of the dimensions related to personalized treatment and interaction in user satisfaction.

Key words: service quality; user satisfaction; SERVQUAL; university Services

History: Received Nov. 8, 2009; Received in revised form Jul. 7, 2010; Accepted Jul. 14, 2010; Online first publication Jul. 22, 2010

1. Introduction

The study of service quality in business and government is becoming consolidated as a necessary alternative driving an institution's success. The interest in service quality comes from the numerous advantages of the philosophy of excellence, such as augmenting the number of loyal users, increasing the attraction of new customers, presenting opportunities for institutional development, improving cost reduction policy and optimizing the institutional image, reinforcing the permanence of its members (Rebollosa, 1999).

Quality is a process, and its most important characteristic is its variability, which evolves gradually and continuously depending on the interaction between the customer and the service (Buzzel and Gale, 1987). Implicit in the complexity of the term is its conceptual fragmentation, so there is no universally accepted definition that can be unmistakably translated into operational terms and subjected to measurement. Some authors believe that the best way to analyze quality is with an objective formula, by evaluating the resources available (Rust and Oliver, 1994). By this paradigm, quality is established in standard terms or adjusts to certain institutional standards.

On the other hand, there are authors who study it from more subjective perspectives, especially based on customer opinion, which is a vital criterion in finding the requisites that an "ideal" service must have (Bolton and Drew, 1991). Reeves and Bednar (1995) propose two dimensions for analyzing the type of service and, consequently, the most appropriate quality concept for each. In their opinion, services vary in the degree to which they can be defined in operative and quantifiable (*tangible*) terms, as well as in the degree of adaptation to the customer (*customization*). The combination of these two dimensions indicates to what extent the service can be standardized and always offered the same way (*objective quality*), or else is unique for each customer (*subjective quality*). As a result, the emphasis on one or the other concept of quality is contingent on the type of service that is analyzed (Rebollosa, Fernández-Ramírez and Cantón, 2001).

In a previous study, Rebollosa et al. (2001) used customer satisfaction as a criterion for study of subjective quality in the context of non-educational university services, while accepting that there is some confusion between the two concepts. It is true that in some cases they have been employed interchangeably, but in others, satisfaction is understood as an attitude that can be used to predict service quality (Oliver, 1981), considered a judgment or overall attitude, the results of which are obtained by comparing expectations for a service with current perception of it

(Parasuraman, Zeithaml and Berry, 1985, 1988; Grönroos, 1984). Therefore, in this study, we do not consider the two terms to be identical as Zeithaml, Berry and Parasuraman (1996) do, although they are closely related.

Customer judgment is the institutional support that provides both the institution and its employees with direction and orientation on how to proceed. This way the quality perceived or experienced is used as a critical variable that affects the final judgment on quality (Brown and Swartz, 1989; Grönroos, 1984; Parasuraman et al., 1985, 1988). Specifically, it is of interest to find out what the customer desires, the service or product offered to be like and what psychosocial and organizational variables affect their satisfaction.

In this context, Parasuraman et al (1985) have emphasized the most subjective perspective of service quality, by analyzing the discrepancy between customer desires or expectations, and expectations linked to adequate quality, as well as the existence of an intermediate zone between them called tolerance (Parasuraman, Berry and Zeithaml, 1990). *Desired quality* is what the service can or should offer, or what the customers expect to receive based on prior experience. *Adequate quality* is what the customers accept according to the evaluation of what they have received, the predictions for the service and the number of offers available on the market. The *tolerance zone* is closely linked to circumstances and experience and is sensitive to comments from other users or customers. As may be easily understood, the diversity of factors generates fluctuation from one person to another, from one organization to another and from some aspects of the service to others.

The instrument most used to analyze service quality is the SERVQUAL scale (Parasuraman et al., 1988), which consists of five dimensions: (a) *reliability*, consistency in rendering the service promised reliably and carefully; (b) *responsiveness*, disposition of the staff to help users and provide them with quick service; (c) *assurance*, knowledge, attention and skills shown by the employees that inspire credibility and trust; (d) *empathy*, an effort to understand the perspective of the user through individual attention; and (e) *tangibles*, appearance of the physical facilities, equipment, personnel and communications materials.

The criticism of the SERVQUAL scale has centered on two types of problems: one general, concerning measurement; specifically, the guidelines used for its construction are questioned (Babakus and Boller, 1991; Carman, 1990), emphasizing the need to surpass the cultural limitations of the scale (Orledge, 1991; Smith, 1992) and to revise the technique employed in its construction, since the same questions are asked to study both customer expectations and perceptions. The second block of criticism refers to the distribution of weights assigned to each dimension. It was initially hypothesized that all the dimensions of the service quality construct had the same value, assumption that has not been empirically confirmed when data are collected in different contexts. However, it is possible that the disparity between findings is due to the fact that the supposed validity, consistency and coherence of the scale are taken for granted (Buttle, 1994).

In the work of Rebollosa et al. (2001), questionnaires were used to analyze the quality perceived by the users of a university student attention service. Items for each of the SERVQUAL dimensions were used, as well as others pertaining to new categories (expectations of the service, exceeding expectations and prices). These items were submitted to cross validation applying criteria of consistency, discrimination and validity of criteria. The authors again take up the idea that satisfaction is an indicator of subjective quality and argue for the possible causal relationships between the two variables, considering that satisfaction is a mediating variable between the customer's initial idea about the service quality and the one he has at the present time (Bolton and Drew, 1991). In any case, the dimensions most related to satisfaction are competence (Winer, 1986) and skills of employees (Zeithaml, 1988), among others.

The results of Rebollosa et al. (2001) show that the SERVQUAL scale has a two-dimensional structure: (a) a mixed factor that combines the efficacy perceived by the user (satisfaction of needs, previous experience and accessibility), and efficiency, understood in terms of professional superiority, speed and price associated with the service; and (b) another factor called tangibles, that concerns the perceived quality of the material resources of the service. For Rebollosa et al., the diversity of results in the number of dimensions in different studies is due to a problem of inter-correlations associated with the peculiarities of the service evaluated, which does not mean that these findings invalidate the original five-dimensional model. This way the issue is avoided in so far that the argument proposed by Parasuraman, Zeithaml and Berry (1994), who suggest that the variation is a result of the context, is accepted as an explanation of the apparent two-dimensionality of the scale.

In the study that we present here, the intention was to determine the relative importance of the five dimensions proposed by Parasuraman et al. (1988). In an attempt to solve the problems in the composition of SERVQUAL (Buttle, 1994), an adaptation applied to the university context has been designed, increasing the number of items in all the dimensions, for greater intra-dimensional consistency. The study also specifies the practical feasibility of the SERVQUAL dimensions in the context of non-educational university services (Babakus y Boller, 1991; Carman, 1990).

2. Method

Sample. 223 users of university services participated in the study. 73.1% are women and 26.9% men, belonging to the three main strata of the university community (85.2% students, 3.6% faculty, 6.7% administration and services staff and 4.5% leavers). 7.1% were over 30 years old, 32.8% under 20 and 59% were between 20 and 30, with a total mean of 22.68 (typical dispersion).

In order to obtain greater variety in the data to facilitate the testing of the instrument, the study took place in four types of university services: concierge's desk (27.4%), canteen (35.9%), library (15.7%) and administration services (21%). Each of these sections is different from the others, both concerning the professional competence necessary to perform the tasks, and requirements for fulfilling the activities demanded, although all of them have a strong customer attention component as a common denominator.

Instrument. An *ad hoc* questionnaire was prepared (Table 1, ESQS, *Enlarged Quality Service Scale*), with headings for a series of sociodemographic and control variables. The scale is made up of 43 items (Likert-type scale, 1-7), 23 of which are a direct adaptation of SERVQUAL (Parasuraman et al., 1988), 6 come from the work of Reboloso et al. (2001) and, finally, the rest are original based on other studies on the subject. The distribution of the elements follows the overall structure of the SERVQUAL scale: *tangibles*, *reliability*, *responsiveness*, *assurance* and *empathy*. For the sake of comparison, the items corresponding to SERVQUAL and those pertaining to the complete ESQS are analyzed separately in the empirical section.

Table 1 Contents of the ESQS

TANGIBLES

Servqual

1. *The center has enough material (brochures, fliers, etc.) to inform users about the services offered.*
4. *The staff is easily identified.*
7. *The tools used by the employees are modern.*
8. *The Service has enough space and furniture to comfortably receive all the users.*
10. *The facilities of the service are attractive.*

Own design

2. *This Service makes many resources available to me.*
3. *The staff has adequate technology to do their job.*
5. *The staff has adequate communications equipment providing contact with other services and facilitating their work.*
6. *The staff has sufficient material resources to do their job.*
9. *The Service has signs that facilitate orientation.*

RELIABILITY

Servqual

11. *When the employees say that they are going to do something in a certain time, they do it.*
12. *The Service does the job expected properly and with assurance.*
15. *The Service offered is exempt of error.*
17. *The personnel do their job efficiently.*

Own design

13. *This Service is very well planned and organized.*
14. *The employees have sufficient knowledge and adequately trained to cover user demands.*
16. *The employees would rather take care of user demands than any other activity.*

RESPONSIVENESS

Servqual

18. *The personnel show their eagerness to helping users.*
19. *The service responds quickly to the needs and problems of users.*
21. *This Service offers careful, individualized attention.*
23. *When I have a problem with this Service, the employees solve it quickly.*

Own design

20. *Sincerely, the staff is concerned about users.*
22. *The personnel are highly motivated in their work.*

ASSURANCE

Servqual

24. *When I go to the Service, I know that I will find the best solutions.*
27. *The employee seems to know what he is doing.*

28. The treatment of users by the staff is friendly and considerate.

30. The employees of this Service are very pleasant.

31. The staff gives an image of honesty and trust.

Own design

25. The staff is fully qualified for the tasks that it has to perform.

26. This Service is aware of new demands.

29. The employees show interest when I ask them a question related to the Service.

EMPATHY

Servqual

33. The schedule offered by this Service adapts to my needs.

36. When I go to this Service, the employees are delighted to help me.

37. All of the employees know user interests and needs.

39. The staff understands user needs.

Own design

32. When I go to the Service, I have no problem at all in contacting with the best person to solve my problems.

34. The employees inform clearly and understandably.

35. The employees of this unit use technical jargon.

38. This Service has been shown to be flexible in accommodating to my availability.

40. This Service treats me like a human being.

SATISFACTION

Own design

41. I am generally satisfied with the Service.

42. At this Service I not only get what I need, but it also makes me completely happy.

43. The service given is excellent, that is, better than other services.

Procedure. Data collection took place during the months of January and February of the Academic Year 2001/2002. The researchers went to the different units studied, where they offered the participants the opportunity to answer the questionnaire voluntarily after visiting a specific service. Once the information was coded, four types of analysis were performed: (a) analysis of the central tendency and comparison of means (*Student t-test*), to offer a general comparison of the overall results of both scales; (b) analysis of consistency (*Cronbach alpha*), to estimate the homogeneity of each of the scales and subscales; (c) multiple regression analysis (*enter*), to establish what dimensions, on both scales, offer the closest links to *General Satisfaction*; and, finally, (d) exploratory factorial analysis (principle components with *oblimax* rotation), to check that the structure of the ESQS is identical to that of SERVQUAL. The purpose of the first three analyses is to check general functioning of the ESQS under the assumption that it is better than the SERVQUAL for studying service quality in a university context. The last step is to study the dimensions of service quality employing only the ESQS.

3. Results

3.1 Services Overall Evaluation

The values of the central tendency and dispersion of the SERVQUAL and ESQS are summarized in Table 2. In general, final scores are observed to be high and very close. These results show the desire of customers to assess the services evaluated favorably. In an overall comparison of the two scales, we observe that the difference in means is minimum and non significant ($t=1.39$, $p=.167$), which shows that the behavior of the ESQS is similar to SERVQUAL, that is, it does not mean a drastic break from its general results.

In a detailed analysis of the dimensions, we observe that the *Assurance* scale is the best in both cases ($MEAN_{SERVQUAL}=4.65$ and $TIPICAL\ DISPERSION=-1.68$, and $MEAN_{ESQS}=4.59$, $TIPICAL\ DISPERSION=-1.45$; $t=-2.09$, $p=.038$). This shows that the users evaluate the treatment given them by the employee positively, specifically, that his/her behavior was considerate, courteous and pleasant, that he/she knew enough to perform the job, was up-to-date and offered the best results.

Concentrating on the differences between the two scales, we see a slight increase in the *tangibles* dimension ($MEAN_{SERVQUAL}=4.15$, and $MEAN_{ESQS}=4.25$; $t=2.65$, $p=.010$), while no significant difference is found in *Responsiveness* ($MEAN_{SERVQUAL}=4.31$ and $MEAN_{ESQS}=4.32$; $t=.199$, $p=.842$). In the rest of the dimensions there is a slight reduction in mean score in the ESQS. The differences are found in *Reliability* ($MEAN_{SERVQUAL}=4.28$ and $MEAN_{ESQS}=4.21$; $t=-2.09$, $p=.038$), *Assurance* ($MEAN_{SERVQUAL}=4.65$ and $MEAN_{ESQS}=4.59$; $t=-3.41$, $p=.001$) and *Empathy* ($MEAN_{SERVQUAL}=4.26$ and $MEAN_{ESQS}=4.17$; $t=-3.41$, $p=.001$). In a sense, the ESQS enables a broader

analysis, richer in innuendos of service quality, because it includes more items. However, this does not mean a great change in its final evaluation, as we have just seen.

Table 2 Central Tendency and Dispersion of the SERVQUAL and ESQS Scales

DIMENSIONS	SERVQUAL			ESQS		
	MEAN	DIVERSION	DISPERSION	MEAN	DIVERSION	DISPERSION
<i>TANGIBLES</i>	4.15	1.36	5.51 2.79	4.25	1.07	5.32 3.18
<i>RELIABILITY</i>	4.28	1.52	5.80 2.76	4.21	1.40	5.61 2.81
<i>RESPONSIVENESS</i>	4.31	1.41	5.72 2.90	4.32	1.66	5.98 2.66
<i>ASSURANCE</i>	4.65	1.68	6.33 2.97	4.59	1.45	6.04 3.14
<i>EMPATHY</i>	4.26	1.24	5.50 3.02	4.17	1.15	5.32 3.02
<i>GENERAL</i>	4.33	1.12	5.45 3.21	4.34	1.13	5.47 3.21

3.2 Internal Consistency of the Scales

Table 3 presents the *alpha* scores of all the dimensions. In the majority of the cases, the values are within acceptable parameters, above .50 (Malhotra, 1983), except for the SERVQUAL *Tangibles* scale, which had lower scores.

Table 3 Internal Consistency of the Scales

DIMENSIONS	SERVQUAL	ESQS
<i>TANGIBLES</i>	.365	.677
<i>RELIABILITY</i>	.586	.724
<i>RESPONSIVENESS</i>	.908	.675
<i>ASSURANCE</i>	.607	.761
<i>EMPATHY</i>	.734	.879

Wide dispersion in data is observed in the SERVQUAL. The scores fluctuate from .365 (*Tangibles*) to .908 (*Responsiveness*). The ESQS consistency data oscillate from .675 (*Responsiveness*) to .879 (*Empathy*). In this case, the scores of each dimension are not only homogeneous, but also rather close to each other. Therefore, the ESQS dimensions are more coherent than the SERVQUAL, which, at the same time, makes it possible to perform a better analysis of university service quality.

When the two scales are compared, a decrease in *Responsiveness* is found (from %=.908, SERVQUAL, to %=.675, ESQS). There are increases in the remaining dimensions, the one that stands out the most being *Tangibles* (from %=.365, SERVQUAL, to %=.675, ESQS), which passes the cutoff point set and reaches a score similar to the rest.

To summarize, both scales are consistent, although in the ESQS almost all the dimensions are considerably improved, especially *Tangibles*. Therefore, the ESQS may definitely be used as an alternative to SERVQUAL in the context of our study, pointing to increased coherence in the analysis of service quality.

3.3 Service Quality and User Satisfaction

A multiple regression analysis was performed (*enter* method) to estimate the predictive capacity of the dimensions of both scales with regard to the criterion variable (general satisfaction with the service; starting out with the mean of items 41, 42 and 43; $\% = .743$). As seen in Table 4, the percentages of variance explained are rather high, both for the SERVQUAL scale ($.588$, $F=61.18$, $p=.001$), and the ESQS ($.604$, $F=65.147$, $p=.001$). The fact that the scores are similar reflects scant alteration in predictive capacity when ESQS is used.

Table 4 Multiple Regression Analysis

DIMENSIONS	SERVQUAL		ESQS	
	β	Sig.	β	Sig.
TANGIBLES	.052	.298	.046	.314
RELIABILITY	-.008	.925	.001	.984
RESPONSIVENESS	.183	.029	.454	.000
ASSURANCE	.243	.001	.158	.010
EMPATHY	.403	.000	.231	.001
	$R^2 = .588$, $F=61.180$, $Sig. = .000$		$R^2 = .604$, $F=65.147$, $Sig. = .000$	

V.D. = Satisfaction (Items 41, 42 and 43) Method *enter*

In accordance with the magnitude and significance of the beta values, in both cases, the dimensions that are observed to have the greatest predictive capability are *Assurance*, *Empathy* and *Responsiveness*. To the contrary, *Tangibles* and *Reliability* are not significant in any case.

In spite of the similarities, each one emphasizes different aspects of service quality with regard to user satisfaction. In SERVQUAL, the satisfied customer first expects the contact employee to understand him and assume his point of view (*Empathy*, $\beta = .403$, $p = .001$), to offer him a serious, formal, competent service (*Assurance*, $\beta = .240$, $p = .001$), and to show interest in the customer (*Responsiveness*, $\beta = .183$, $p = .029$). However, *Responsiveness* acquires a special value in the ESQS ($\beta = .454$, $p = .001$), that is, a satisfied customer attributes greater importance to the attitude and interest shown by the employee. Therefore, notwithstanding the scores, the results of the ESQS are slightly different. It could be argued that, in general, customer satisfaction is an impression derived from the service transaction offered by the contact employee.

3.4 Factorial Structure of the Scales

As shown above, the internal consistency and the validity of criteria in the ESQS are satisfactory. Therefore, only this scale is used to analyze the dimensional structure of service quality.

The 40 items on the scale were subjected to exploratory factorial analysis using the *principle components method* with *oblimax* rotation. This analysis makes it possible to check whether the structure of the service quality is organized into the five traditional SERVQUAL dimensions, or fewer, as found in some other studies (Bigné, Moliner, Vallet and Sánchez, 1997; Kettinger, Lee and Lee, 1995; Rebollosa et al., 2001; Serrano and López, 2000). The results obtained yield two factors that explain 87.10% of the total variance (see Table 5). The first factor accumulates 47.52% and the second 39.58%.

Factor 1. Interactive quality. The first factor is composed of 25 items, of which ten show factorial weights of over .80. The most relevant are 18, 23, 19 and 21, pertaining to *Responsiveness*, and items 29, 30 and 28 (*Assurance*). This is followed by a second block of items with moderate weights (between .70 and .80), containing items 40, 39, 36 and 32, pertaining to *Empathy*, which has higher scores, followed by a last group of items 12, 13 and 16 (*Reliability*) with weights between .74 and .76.

The interactive quality factor is complex and somewhat difficult to interpret, since four out of the five SERVQUAL dimensions are present in it. In spite of the apparent difficulties, it seems that users perceive service quality as involving the desire to help customers (*Responsiveness*), along with knowledge and professional

competence (*Assurance*), respect and personalized consideration (*Empathy*) and the ability to offer sure service (*Reliability*). In this sense, we interpret that service quality has a humanist shade since, apart from the competence and personal knowledge of the employee, what he is really interested in is the intention, respect and consideration for the customer. Given the direction of the results, the label *Interactive quality* turns out to be the only one able to cluster the significance of this factor. In spite of it all, we must not let this interpretation fool us, since we know that professional competence (*Assurance*) and reliability speak more for efficiency perceived than treatment quality.

Table 5 Factorial Structure of the ESQS

Dimensions	Item	Factor 1	Factor 2
responsiveness	18	.850	
responsiveness	23	.848	
assurance	29	.840	
responsiveness	19	.835	
reliability	17	.814	
assurance	24	.811	
responsiveness	21	.810	
assurance	30	.810	
assurance	28	.808	
empathy	34	.806	
assurance	25	.782	
empathy	40	.779	
empathy	39	.776	
reliability	12	.763	
empathy	36	.762	
responsiveness	22	.761	
reliability	16	.747	
reliability	13	.748	
empathy	32	.741	
reliability	11	.694	
assurance	27	.686	
empathy	38	.661	
empathy	37	.646	
assurance	26	.525	
empathy	33	.428	
tangibles	7		.756
tangibles	3		.736
tangibles	6		.690
tangibles	2		.615
tangibles	1		.566
tangibles	5		.491
tangibles	9		.482
tangibles	10		.423

TVP = 87.10%; F1=47.52%; F2=39.582%

Factor 2. Tangibles or physical quality. Clusters a total of eight items from the original tangibles dimension proposed by Parasuraman et al. (1988). The data can be organized in two blocks, one with moderate weights (over

.70), corresponding to items 7 and 3, and another with lower scores (between .40 and .60), which includes the rest of the items.

The two basic items in this factor refer to the type of technology used by the service, specifically, it values whether it is modern and adequate for the job. The rest are related to the service possibilities for adequate technology, whether it is sufficient and whether the facilities are attractive. That is, the service quality seems to be more related to having modern, useful technology. In this sense, we call this factor *tangibles* or *physical quality* (Grönroos, 1984; Lethinen and Lethinen, 1991; Reboloso et al., 2001).

With these results, it may be concluded that the five dimensions proposed by Parasuraman et al. (1988) are organized into two macro categories (interactive quality and physical quality), the first being the factor that generates greater impact on the university service quality.

4. Conclusions

The main purpose of this study was to test the feasibility of the SERVQUAL in the framework of university services, through a scale designed for the purpose (*Enlarged Service Quality Scale*, ESQS). In the second place, check the results of various authors (Babakus and Boller, 1992; Reboloso et al., 2001), who believe that the five dimensions of Parasuraman et al. (1988) may be reduced, and that their relevancy and composition would depend on the type of service.

The results of our study reveal that the enlarged scale, with slight variations, offers overall scores that are very similar to those of the SERVQUAL. The scores obtained in the consistency of the ESQS are adequate and, in some cases, better than those offered by the SERVQUAL for the same services. In general, such findings indicate that the ESQS enables a more accurate analysis of university service quality and adapts better to university services, eliminating one of the greatest criticisms of SERVQUAL, in which the imbalance in the number of items was questioned (Buttle, 1994; Carman, 1990). Despite everything, we think that this information should be treated warily (Diamantopoulos, Rieflery Roth, 2008).

In the SERVQUAL, the customer probably is shown to be satisfied when the employees treat him respectfully, in a personalized manner and, further, are knowledgeable and competent (efficacy). In the ESQS, the relevant dimensions of subjective quality are restructured. That is, the satisfied customer not only wishes the employee to be willing and to show his desire to help him, but it is also very important to him that he be offered the best service quickly (efficiency). The three definitely most influential dimensions in user satisfaction (*Responsiveness*, *Assurance* and *Empathy*) have to do with aspects related to efficacy, efficiency and personalized treatment in providing the service. These three central concepts make it possible to form the interactive quality construct (Dávila, 2001; Reboloso et al., 2001).

With regard to the factorial structure of the ESQS, the two-dimensional solution proposed by Reboloso et al. (2001) has been verified. The factorial analysis reveals that there are two dimensions: *Interactive quality* and *Physical Quality* (Babakus and Boller, 1991; Mira et al., 1997; Reboloso et al., 2001). The first term refers to treatment by the employees (desire and disposition to help quickly) and the consideration shown to the customer, understood in terms of *efficacy* and *efficiency*. The second is made up of items that include terms referring to the decoration, furniture, equipment, cleanliness, and product and service catalog design (López and Serrano, 2001).

As a general conclusion of this work we would argue the following: (a) The ESQS adapts probably better to the context of the study (University services), overcoming the imbalance in the number of original items in SERVQUAL; (b) the SERVQUAL dimensions are valid for university services although clustered in two macro categories (interactive quality and physical quality). The study does not invalidate the five original dimensions of SERVQUAL, but shows how they are reorganized in the specific context of certain university services; finally, (c) the dimensions that have to do with the interactive quality construct would be the most relevant for achieving user satisfaction.

We believe that it is necessary to consider the characteristics of the context of the analysis at all times (Buttle, 1994). Lovelock (1984) distinguishes between the services that are rendered for the benefit of the consumers themselves (restaurants, cafes, etc.) and those given their possessions (transport of merchandise, gardening, etc.). It also distinguishes services that require a large tangible component (health care, beauty parlors, etc.). Furthermore, Reeves and Bednar (1995) suggest that in order to approach the study of subjective quality more accurately, the service *customization* level must be considered. Probably, in the services evaluated in this study, the intangibility or adaptation to the customer is the priority element, which is the reason why the elements typical of interactive quality acquire relevance. However, before such conclusive statements can be made, it would be advisable to analyze

specifically the characteristics of the various university services to check the differential impact of the dimensions of their quality and study their influence on user satisfaction.

Likewise, these findings are insufficient to assume all those critical positions that place the existence of five independent dimensions of service quality in doubt (Cronin and Taylor, 1992; Oliver, 1980). To arrive at these extremes it would be advisable to encourage more studies in different contexts and university services. It should be kept in mind that the disparity of results on the dimensional structure could be due to the confusion that the items generate in the mind of the customer, the characteristics of the context of the study and “the differences in data collection and in analytical procedures” (Parasuraman, Berry and Zeithaml, 1991, p. 440). The problem may reside in assuming that there is a “universal” tool for the analysis of service quality, that is, to defend that the dimensional structure of the scale is composed of unalterable units of analysis. However this may be, it becomes essential to seek the distinctive profile of each organization and adapt the tool to this reality (Lovelock, 1984; Parasuraman et al., 1993).

Future research must approach two perspectives. One more specific, centered on perfecting, analyzing and validating the psychometric characteristics of the scales of service quality applied in the university context. To do this it would be advisable to study a greater number of services and even different universities. In this process, the importance of the variety of catalogued services as pure or specific must not be forgotten (Buttle, 1994), since a same service may offer different types of products or services that would vary on the amount of tangibility and customization and that, therefore, merit special analysis.

More generically, the studies must not be constrained only to the debate on the number of dimensions, but should also emphasize consumer behavior and satisfaction, the relationship existing between perception and expectations, as well as the zone of tolerance of potential customers. In addition, we recommend that the future works should follow the expositions offered by Rossiter (2009). With all this information, institutions can design plans for improvement that optimize the quality of their services.

References

- Babakus, E.W. & Boller, G.W. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business Research*, 24 (3), 253-268.
- Bigné, J.E., Moliner, M.A., Vallet, T.M. & Sánchez, J. (1997). Un estudio comparativo de los instrumentos de medición de la calidad de los servicios públicos. *Revista Española de Investigación de Marketing ESIC*, Septiembre, 33-53.
- Bolton, R.N. & Drew, J.H. (1991). A multistage model of customers' assessments of service quality and value. *Journal of Consumer Research*, 17, 375-384.
- Brown, S.W. & Swartz, T.A. (1989). A dyadic evaluation of the professional service encounter. *Journal of Marketing*, 53, 92-98.
- Buttle, F. (1994) SERVQUAL: Review, critique, and research agenda. *European Journal of Marketing*, 30 (1), 8-32.
- Buzell, R.D. & Gale, B.T. (1987). *The PIMS principles*. New York: Free Press.
- Carman, J.M. (1990). Customer perceptions of service quality: An assessment of the SERVQUAL dimensions. *Journal of Retailing*, 66, 33-35.
- Diamantopoulos, A., Riefler, P. & Roth, K.P. Advancing formative measurement models. *Journal of Business Research*, 61, 1203-1218.
- Ford, J.W. & Joseph, B. (1993). *Service quality in higher education: A comparison of universities in the United States and New Zealand using SERVQUAL*. Norfolk, VA.: Old Dominion University, Unpublished manuscript.
- Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18, 36-44.
- Kettinger, W.J. & Lee, S. (1995). Global measurements of information service quality: A cross-national study. *Decision Sciences*, 26 (5), 569-585.
- López, M.A. & Serrano, A. (2001). Dimensiones y medición de la calidad de servicio en empresas hoteleras. *Revista Colombiana de Marketing*, 2 (3), 1-13.
- Lovelock, C.H. (1984). *Services marketing, text, cases, and reading*. Englewood Cliffs, NJ.: Prentice-Hall.
- Mira, J.J., Buil, J.A., Rodríguez-Marín, J. & Aranaz, J. (1997). Calidad percibida del cuidado hospitalario. *Gaceta Sanitaria*, 11, 176-189.
- Oliver, R.L. (1981). What is customer satisfaction? *The Wharton Magazine*, 5, 36-41.
- Orledge, J. (1991). *Service quality: An empirical investigation of two measurement techniques*. Msc dissertation: Manchester School of Management.

- Parasuraman, A., Berry, L.L. & Zeithaml, V.A. (1990). Guidelines for conducting service quality research. *Marketing Research*, December, 34-44.
- Parasuraman, A., Berry, L.L. & Zeithaml, V.A. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing*, 67 (4), 420-450.
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49 (4), 41-50.
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1988). SERVQUAL: A multiple item scale for measuring consumer perceptions of quality service. *Journal of Retailing*, 64 (1), 12-40.
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research. *Journal of Marketing*, 58 (1), 111-124.
- Reboloso, E. (1999). *La evaluación de la calidad como estrategia de supervivencia y futuro de la universidad, Lección Inaugural del Curso 1999/00*. Universidad de Almería: Servicio de Publicaciones.
- Reboloso, E., Fernández-Ramírez, B. & Cantón, C. (2001). Satisfacción de usuarios con un Servicio universitario. Elaboración de un instrumento de evaluación. *Revista de Psicología Social Aplicada*, 11 (3), 27-46.
- Reeves, C.A. & Bednar, D.A. (1995). Quality as symphony. *The Cornell Hotel and Restaurant Administration Quarterly*, 36 (3), 72-79.
- Rossiter, J.R. (2009). ER-SERVCOMPSQUAL: A Measure of E-Retailing Service Components Quality. *Service Science* 1(4), pp. 212-224
- Rust, R.T. & Oliver, R.L. (1994). *Service Quality*. Thousand Oaks, Ca.: Sage.
- Saleh, F. & Ryan, C. (1992). Analysing service quality in the hospitality industry using the SERVQUAL model. *Services Industries Journal*, 11 (3), 324-343.
- Serrano, A.M. & López, M.C. (2000). Dimensions and measurement of quality service in hotels. *Presented at the First World Conference on Production and Operations Management POM*. Publish in CD-rom. Seville.
- Smith, A.M. (1992). The consumers' evaluation of service quality: Some methodological issues (633-648). In J. Whitelock (Ed.), *Marketing in the New Europe and Beyond Marketing Education Group, Annual Conference Proceedings, 1992*, University of Stanford, California.
- Spreng, R.A. & Olshavsky, R.W. (1993). A desires congruency model of consumer satisfaction. *Journal of the Academy of Marketing Science*, 21, 169-177.
- Teas, R.K. (1993). Expectations, performance evaluation, and consumers' perceptions of quality. *Journal of Marketing*, 57 (October), 18-34.
- Weiner, B. (1986). *An attributional theory of motivation and emotion*. Nueva York: Springer Verlag.
- Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52, 2-22.
- Zeithaml, V.A., Berry, L. and Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60, 31-46.

Carmen Salvador's academic work includes teaching. She is Doctorate in theory and methods in programs evaluation from University of Almería in 2004. She is a University Professor at the University of Almería where she gives teaching in master official, doctorate and university careers (social work, psychology, labor relations, between others). She realizes national investigations and internationally on services quality, satisfaction, enterprising autoefficiency, emotional intelligence. Dr. Salvador realizes works of investigation with different countries Latino-Americans (México, Argentina, Paraguay). She is a reviewer of several national and international Journals. She is a member of the company of evaluation of the province of Almería and is a member of the ULAPSI (Latin-American Union of psychology), where she forms a part of a workgroup on juridical psychology. She has publications in publishing of international impact, indexed in ISI, JCR. She is a co-author of several books and is the only authoress of 5 books. The Quality Service book written by her has received the recognition of the Council of Innovation of the Meeting of Andalusia. She possesses 35 chapters of books. She has got prizes of investigation for his work realized in Mexico (Project supported by the Conacyt). Dr. Salvador has been selected by the prestigious publishing house **WHO IS WHO IN THE WORLD** where all her biography will be published.