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## RESEARCH ARTICLE

### QUALITY IN SERVICES: CASE STUDY FROM THE BUS STATION OF CAXIAS DO SUL/RS/BRAZIL

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#### ABSTRACT

The purpose of this study was to identify the perception of the users of the Bus Station of Caxias do Sul, RS, Brazil, regarding the quality of services provided. To do so, a quantitative and descriptive research was carried out using a cross-sectional survey using the SERVQUAL Scale as a data collection instrument. Through univariate and multivariate statistical analysis, it was verified that the dimensions proposed by the scale were not maintained, being grouped in four other factors, and not in the five defined in the literature. Thus, it is inferred that although the statistical distribution was different in the set of data obtained, they are still relevant for the explanation and identification of quality in services, since they cover all the necessary analytical aspects. As suggestions for future studies, it is recommended to replicate this research in other Road Stations, as well as considering other means of public transportation, such as airplanes and subways, for example.

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## INTRODUCTION

The perception of quality in the provision of services by customers can be measured by five dimensions, these being: (i) Reliability, which refers to the ability to offer the service reliably and accurately; (ii) Tangibility, which deals with the physical appearance of the facilities, training of officials; (iii) Sensitivity about the willingness of staff to help and clarify the doubts of customers; (iv) security that concerns the ability to transmit the service reliably, and; (v) empathy that covers the direct relationship with the customer (BERRY; PARASURAMAN, 1995). According to Pizzi and Scarpi (2016) the company providing service to achieve success must be expert in identifying what's important to your users. With a view to this, this study aimed to identify the users' perception of the Caxias do Sul bus station, as the quality of the services provided. Thus, in addition to the introduction, the study consists of the literature review that covers conceptual aspects related to services, SERVQUAL scale and public transportation. Result, the methodological procedures used in empirical research and the analysis and discussion of the results obtained. Finally, we present the final considerations, containing the limitations of research and suggestion to future studies

### Literature Revision

**Services:** The term "services" encompasses many definitions, from the personal to the supply of a service as a product.

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However, certain features of the services are common, regardless of the context in which they are employed, as the intangible, that demonstrated in the actions and intentions of social events and feature in the Union between production and consumption, i.e. both simultaneously (Normann, 1993). For Hauknes (1998) the emphasis on services is regarding the relevance of specificities of co-production and immateriality of these, which lead to innovation, and so outweigh the related technological elements. For your time, Gallouj (2002) confirms that the service sector is characteristic by your volatility, as well as the relationship between producers and users as determinants for the customization. This way, you establish difficulty in measurement of service activities by traditional economic processes, however the identification of improvements and/or changes of quality is compromised (Gallouj; Weinstein, 1997). As the importance of the service sector, that this is about 60% to 80% of gross domestic product (GDP) of advanced economies in the world. Therefore, starting from the definition of service established by Zarifian (2001), which conceptualizes as resource mobilisation and organisation with the purpose to interpret, understand and promote changes in the activities of the client/user, Klement (2007) elucidates that innovation aims to increase the quality, minimize costs and time of service. However, the generic assumption that services are defined as a function of interpersonal relationship from which they originate, whether in the context of the increasing complexity of economies or in the non-commercial sector, considered as traditional (Delors, 1998). In this sense, there is no doubt the relevance of the quality perceived by the customer about the service received (Fullerton, 2003).

**ScalSERVICE Quality Gap Analysis (SERVQUAL):** The SERVQUAL scale consists of a model proposed by Parasuraman, Zeithaml and Berry (1988), which translates the measurement of service quality, comparing the quality of service delivered with that consumers expect to receive, in other words, it is the quality of service assessment contrasted to that if you want to receive and to what is, in fact, obtained (SAMPAIO *et al.*, 2004). To this end, considers five dimensions, namely: Tangibility, reliability, security, Empathy and Responsiveness. The first corresponds to the physical facilities, equipment used, besides the personal appearance, for your time, the second dimension concerns the ability to perform the promised service safely and accurately. On the other hand, responsiveness appears as a claim to help customers and providing them a service of readiness and safety it is the knowledge and courtesy of the staff, who are able to inspire confidence. Finally, the last dimension refers to care and individualized attention that the company provides to its customers (Parasuraman; Zeithaml; Berry, 1988).

### Road Collective Transport

Among the numerous services provided in Brazil, public transportation, specifically the bus, is used by approximately 66 million Brazilians (BRAZIL, 2011). Of these, about 81% use road transport for up to 1,000 km, which corresponds to the estimated 12 hour drive. From this distance, people exhibit a preference for air travel, because, despite the higher price in comparison to the bus, the journey has more quickly and becomes less tiring (BRAZIL, 2011). In the city of Caxias do Sul/RS, according to the site of the bus station (2017), that was founded in 1939, in order to meet users who needed transportation to other cities, which used before the rail service. Due to national holiday of the grape, traditional event held by the municipality, maximized the number of tourists in the region, reflecting the need for public service that will include other cities and even States. From there, the Station's growth and expansion of the transport network, so that currently in addition to intercity transportation to all Rio Grande do Sul, this account with interconnection to the States of São Paulo, Santa Catarina, Paraná and Mato Grosso do Sul, for example. Also has a parcel service that facilitates the delivery of products to other cities and/or States, generally faster than the traditional service delivery.

To ensure that the service provided by the bus companies be done safely and reliably there are two federal agencies that oversee the buses, these being, the national agency of terrestrial transports (ANTT) and the National Department of Transportation infrastructure (DNIT). And the State level the watchdog body is As Department of highways (DAER). As for client satisfaction, Cobra (2005) clarifies that it has close relationship with the attendance, the intangible nature of services makes it more difficult to establish loyalty with a service than a product. In this respect, the newspaper *Estadão* (2016) points out that the investment in the transport sector is still sluggish, so that only 0.6% of GDP is invested in transportation. In addition, the Ministry of transport (2017) recognizes that the highways and roads still need to be improvements, because only 13,000 km of highways are under construction and 79% of the roads are not paved.

### MATERIALS AND METHODS

The survey appears as quantitatively and approach the problem (MALHOTRA, 2005) and descriptive regarding the purpose

(Mattar, 2001; Gil, 2008). As data collection was a survey, with cross section. The data-gathering instrument used was the SERVQUAL scale, composed of nineteen variables grouped in dimensions Tangibility, reliability, security, Empathy and Responsiveness. Such questionnaire was adapted for the transport sector, maintaining the likert-type scale of five points, as the degree of agreement/disagreement. The study population consisted of users of bus station of Caxias do Sul/RS. The sampling was probabilistic not for convenience, considering the subjects available at the time of application of the questionnaires (Mattar, 2001; Hair *et al.*, 2005). Thus, the sample totaled 129 respondents, of the 140 questionnaires applied, 11 have been deleted for being incomplete. The period of application of the research was among the day 02 January 02 February 2017. For data analysis, used to test reliability and internal consistency, Cronbach alpha ( $\alpha$ ), Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test and Sphericity. Descriptive analysis was performed (frequency, mean, standard deviation and variance) between constructs and multivariate analysis by means of factor analysis. To this end, we used the Software Statistical Package for the Social Sciences (SPSS) version 2.0.

## RESULTS AND DISCUSSION

### Univariate Analysis

When it comes to the profile of the respondents, it was found that 55.8% of users from the bus station belong to the female and 44.2% male. As for age, it was found that 24% of users are between 36 and 45 years of age, 20.9% between 26 and 35 years, 16.8% have between 46 and 55 years the same index are users between 56 and 65 years, 15.5% have between 16 and 25 years, with 4% users above the age of 65. As regards the marital status of 32.6% of these users are widowers, 45.7% are married or have stable, 15.5% married with children, 7% 9.3% divorced and widowed. With regard to the demand for tickets, the results obtained show that 83.7% refer to intercity tickets and 16.3% to Interstate tickets. With regard to household income of users found that 41.9% of the respondents have income of up to R\$1,576.00. Followed by the 31.8% that have income between R\$1,577.00 and R \$2,364.00. The percentage who receive between R \$2,365.00 R \$3,940.00 total 18.6% up. The other 7.7% receive above R\$3,940. As for the segment, the majority of respondents work with services (37.2%), followed by trade (31%), industry (20.2%) and 11.6% not working. In this analysis, according to Pastor and Gajero (2005), each variable is treated in isolation while the multivariate analysis establishes relationships between more than two variables. From this, it has been calculated the mean, standard deviation, variance and coefficient of variation of the constructs addressed, as Table 1.

**Table 1. Descriptive Statistics for Construct**

Construct	Mean	Standard Deviation	Variance	Coefficient of variation (%)
Tangibility	4.41	1.51	2.28	34.24
Reliability	4.16	1.51	2.29	36.30
Promptness	4.64	1.65	2.73	35.56
Security	3.99	1.72	2.96	43.11
Empathy	4.70	1.62	2.63	34.47

Source: SPSS output

It turns out that the Readiness construct presents highest average in comparison with the other. However, the safety, which demonstrates the least average, also has the largest

standard deviation and variance. In addition, contact all the averages are higher than average, the scale.

### Multivariate Analysis

For the analysis of the reliability of the data set obtained, if  $\alpha$  is the measure usually employed to confirm the veracity of data consistency, so is used to calculate the reliability of research (CRONBACH, 1951). Thus, a corresponding  $\alpha$  to 0.912 that according to Hair *et al.* (2009) is considered as acceptable, what makes the reliable instrument, given your superiority to 0.70. To confirm the validity of the data are the result of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test and Sphericity, which shows the variance of data common to other data and identity correlation matrix. As faithful (2009), the significance between 0.5 and 1, means that the data allow you to make use of factor analysis. The table 2 demonstrates the results of such tests.

**Table 2. KMO and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)			0.880
Bartlett's Test and Sphericity	Approx. Chi-Square	1126.331	
	Df	171	
	Sig.	0.000	

Source: SPSS output

It is observed that the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) obtained in the total scale is touted as great literature, corresponding to 0.880 (PALANT, 2007). Also notice that the Bartlett's Test and Sphericity demonstrates significant result.

**Table 3. Comunalities**

Variables	Extraction
CONF1	0.443
CONF2	0.720
CONF3	0.668
TANG1	0.724
TANG2	0.587
TANG3	0.574
TANG4	0.588
PRES1	0.489
PRES2	0.584
PRES3	0.654
PRES4	0.670
SEG1	0.677
SEG2	0.630
SEG3	0.664
SEG4	0.543
EMP1	0.601
EMP2	0.591
EMP3	0.677
EMP4	0.593

Source: SPSS output.

**Table 4. Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squares Loadings			Rotation Sums of Squares Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.479	39.364	39.364	7.479	39.364	39.364	3.360	17.685	17.685
2	1.898	9.989	49.353	1.898	9.989	49.353	3.152	16.591	34.276
3	1.276	6.717	56.070	1.276	6.717	56.070	2.851	15.006	49.282
4	1.024	5.387	61.457	1.024	5.387	61.457	2.313	12.175	61.457
5	0.903	4.754	66.210						
6	0.846	4.451	70.661						
7	0.771	4.059	74.721						
8	0.631	3.323	78.044						
9	0.600	3.159	81.203						
10	0.526	2.767	83.970						
11	0.480	2.524	86.494						
12	0.434	2.285	88.779						
13	0.406	2.137	90.916						
14	0.385	2.025	92.941						
15	0.335	1.763	94.704						
16	0.316	1.662	96.366						
17	0.262	1.381	97.747						
18	0.230	1.212	98.959						
19	0.198	1.041	100.000						

Source: SPSS output.

**Table 5. Varimax rotation matrix**

	Component			
	Factor1	Factor2	Factor3	Factor4
CONF3	0.765			
PRES3	0.718			
EMP1	0.639			
PRES1	0.625			
TANG3	0.618			
EMP2				
CONF2		0.828		
SEG3		0.738		
EMP3		0.710		
SEG4		0.624		
SEG2		0.562		
TANG1			0.716	
SEG1			0.665	
TANG2			0.627	
PRES2			0.609	
PRES4				
TANG4				0.693
CONF1				0.612
EMP4				0.570

Source: SPSS output.

So, from performing factor analysis, performed by analysis of main components and rotation, obtained the express in the Table 3. commonalities. The extraction method of the factors was the rotation. A result has been that these 19 variables formed 4 factors, which together explain 61.45% of the variance of the instrument, as shown in Table 4. In this way, the distribution and grouping of the variables in the respective factors, whereas less than 0.45 coefficients were suppressed. The Table 5 demonstrates the rotation of the factor analysis. It is observed that two variables (EMP2 and PRES4) did not present factorial load over 0.45, so that can be excluded from the analysis. There is also that, unlike the research instrument consisting of five dimensions, variables were mixed to compose four factors, therefore, a grip set for literature for the composition of such factors.

### Final Considerations

The main complaints of the respondents were against the security at the bus station, which is precarious in the output of buses, the discomfort of the waiting rooms, the lack of attention to solving problems is something that was fairly claimed by respondents. Most questioned prefer to buy the ticket in person, because it found it difficult to use the site to purchase tickets. The strengths perceived by the research were considered good service and fast, the buses were found preserved, clean and punctual. The road structure generated various opinions, but it is something that could be improved to better serve its users. About payment method some companies already accept credit cards, but are not *yet all* and this generates confusion for some users who see the card machine and think all bus companies accept cards and it ends up generating a disorder to the user and for the attendant. We also observed that, unlike defined by the literature, the variables of the SERVQUAL Scale showed another group, resulting in the formation of four factors and not five, as originally proposed by the literature. Recognize the limitations of the research on the type of sampling used, which prevents the statistical generalization to the entire population. For future studies, it is recommended that this replication research in other bus stations to verify the similarity or divergence between the findings, through an analysis of variance. Also suggested application with users of other means of public transport, such as airplanes and subway, for example.

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