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**SERVICE QUALITY IN THE BRAZILIAN FITNESS INDUSTRY: AN ANALYSIS
FROM DIVERSE ROLES ASSUMED BY THE CUSTOMER**

Author information:

Mr. Chen, Yen-Tsang

Escola de Administração de Empresas de São Paulo (EAESP)

Fundação Getúlio Vargas

Av. 9 de Julho, 2029 - Bela Vista - 01313-902 - São Paulo – SP - Brazil

Tel: +55.11.8219.8327

E-mail: yentsang@gvmail.br

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ABSTRACT

A customer can play several roles along the service operation chain (buyer, co-producer, auditor or promoter); based on this assumption, this study aims to explore the service quality perception that impact at the satisfaction from the diverse roles assumed by the customer at the operation chain. This research was applied to the fitness industry and the SERVQUAL model was used to evaluate service quality provided by the fitness professionals. The data were collected in a survey of customers from several fitness gyms in Brazil. This study shows that the service quality perception seems to vary according to the roles assumed by the customer, and his decision on the service recommendation seems to be related neither to the satisfaction nor to the service quality provided. The practical implication of this study encourages managers to provide proper services at different stages of the service chain and demonstrate a different quality driver for each role played by the customer.

Keywords: Service Quality, Customer's role, Satisfaction, Recommendation, SERVQUAL, Fitness.

INTRODUCTION

Even before the appearance of the civilizations, the primitive mankind are forced to fight for their survival, sometime hunting, sometime being hunted in a frankly hostile environment, what, certainly, since the beginning of the times, brought to their conscience the importance of the physical preparation (Pineiro & Pineiro, 2006). Currently, is still relevant the concern of the population about this subject, in spite of the change in the reasons that impel the population to aspire a good physical preparation. In this way, stimulated by those who desire a better life and health quality and by those who seek a socially valued standard of beauty, the market of the fitness industry is growing up. (Pineiro & Pineiro, 2006).

The quantity of fitness centers is also reflected in the revenue of the fitness industry, it has achieved in 2007 \$ 61.5 billion, 10% more than in 2006. Of this amount, the United States of America contributed with \$ 18.5 billion, i.e. 30% of global revenues. In the case of Latin America, the revenue was about \$ 1.4 billion and only Brazil was in charge, for approximately, 90% that amount, totalizing, in 2007, \$ 1.2 billion, which is about 40% more than in 2006. (IHRSA/Fitness Brazil, 2008). This number represents 0,01% of the Brazilian GDP and the service sector, in 2007, contributed with 56% of GDP and 55.2% in 2008 (Brazilian Central Bank, 2009), taking into account these data, is possible to perceived the importance of the services sector to the economy of the country.

As the number above shown, the fitness industry in Brazil is still at an early stage when compared with Europe or the United States. This complex and incipient industry is composed by the fitness centers, their goods (equipment, accessories, computers, cleaning and hygiene) and services (physical education professionals, nutritionists, physical therapists, physicians, doctors) suppliers.

Included in the universe of service industry, the fitness industry deals mostly with people in practically the entire extension of its service operation chain, therefore, is reasonable to

understand, as suggested by several scholars such as Mentzer et al. (2001), Chase (1985), Harvey (1998) , Prahalad (2000) e Jaiswal (2008), that the service quality and customer satisfaction are strategically essential to the competitiveness of a company

While Parasuraman (1988) proposed a model to evaluate the service quality through five dimensions of SERVQUAL, Mentzer et al.(2001) argue that customers of different segments prioritize different factors of service quality for the satisfaction, and when exchange the lens of analysis is possible to question, while customers play different roles in the service operation chain, do they also appreciate different factors of the service quality for their satisfaction? Therefore, the purpose of this paper aims to seek for factors that might impact in the customers' satisfaction by comparing the dimensions of service quality (SERVQUAL) through the roles assumed by them in the service operation chain.

To guide the development the current work, this paper is structured in: 1) Introduction, 2) Theoretical Background 3) Methodology; 4) Results, 5) Results Analysis 6) Discussion and Final Considerations, 6) References. Any translation of texts was done by the author.

THEORETICAL BACKGROUND

The term service is widely used in daily life; though its simple definition is still a difficult issue between the academic researchers and due to this difficulty is hardly to advances in research addressing issues of service quality (Chang, Chen, & Hsu, 2002). This work begins the theoretical overview by adopting a definition among many others for the term *service* as a reference in this study.

Service

The definition of services, according to Chang et al (2002) is not a consensus among the academics. Some define it as " the business transactions that take place between a donor (service provider) and receiver (customer) in order to produce an outcome that satisfies the customer"

(Ramaswamy, 1996), others define it as " A service is a result that customers want. Services are generally obtained by engaging in an interactive process with the provider" (Harvey, 1998).

According to Gronroos (1990),

A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and /or systems of the service provider, which are provided as solutions to customer problems. Gronroos (1990)

Among all these perspectives, the service, according to Silva and Meirelles (2006) is:

- 1) Work in its broad and fundamental meaning, and can be accomplished not only through human resources (human labor) but also through the machinery and equipment (mechanical work)
- 2) Work in process, this means, service is working in the dynamic conception of the term, work in action
- 3) Every service is realizing a work, but not all work is service, that is, there is not a two-way relationship between service and work.

According to the author, the service has 3 main properties, of which two will be adopted for this paper.

- a) Flow, that is, a sequence of processes activated when requested by the customer, is a flow of process in time and space. The flow that is associated with the ownership of simultaneity and continuity of the process, thus, services are not storable, not and incommensurability and intangible.
- b) The intensive use of human resources, despite the increasing use of technology and machinery, the predominant production factor is still the human resource, as one of the main features of the service is interactive and relational.

Adopting these two properties, it is according with the definition of the service previously adopted by Parasuraman et al (1988): Service is intangible, heterogeneous, simultaneous in production and consumption and perishable.

Service Quality

As argued by Silva and Meirelles (2006) and Harvey (1998), a service is a result that customers want. Services are generally obtained by engaging in an interactive process with the provider. Harvey (1998) argues that service quality is a function that depends on the customer perception, difference between expectation and service performed and the requirements that is valued by the customer; and therefore to discuss this subject in a more objective way, he proposed the division of service quality into two categories:

- a) **Quality of Results** – relate to the results customers want; the quality of results evaluate if the results are according to the requested by the customers, thus, it evaluates if the outcomes accomplish the initial expectations.
- b) **Quality of Process** – those that pertain to the process customers have to put themselves through to get those results.

Under another perspective, Garvin (1987) suggest eight categories to treat the service quality, are they (1) Performance of the Service, (2) Features (3) Reliability; (4) Conformance, (5) Durability, (6) Serviceability, (7) Aesthetics, (8) Perceived Quality.

Is possible to perceive through the perspective of these two authors, the service quality, as well as the definition of the term service, is not consensus among the researchers. For the current paper, it is decided to adopt the SERVQUAL model proposed by Parasuraman et al (1988). This model is widely employed by several studies in the service industry (Etgar & Fuchs, 2009; Jaiswal, 2008; Maddern, Maull, Smart, & Baker, 2007; Mentzer et al., 2001; Parasuraman et al., 1988), and then its validity is trusted to guide this research.

SERVQUAL – Evaluating the service quality

Much has been discussed how to measure service quality, one of the most used by researchers are the model of SERVQUAL proposed by Parasuraman et al. (1988). To develop the SERVQUAL model, Parasuraman et al. (1988) have used the measurement of the difference between expectation and perceived quality as service quality, the study conducted by these researchers has involved service organizations and retail. The SERVQUAL model proposed aims to measure perceptions of service quality along five dimensions of service and it that can be considered as a milestone in this research area once it was one of the first instrument to measure perceived quality of the service and one of the first to became well known and understood in the academic environment (Chang et al., 2002). It is noteworthy that the SERVQUAL model is developed in the following dimensions:

- a) **Tangibles:** evaluate the tangible part of the services; physical facilities, equipment, and appearance of personnel;
- b) **Reliability:** It is related with the performance and the outcome of the service, it is the ability to perform the promised service dependably and accurately.
- c) **Responsiveness:** evaluate willingness to help customers and provide prompt service.
- d) **Assurance:** evaluate the knowledge and courtesy of employees and their ability to inspire trust and confidence
- e) **Empathy:** evaluate caring, individualized attention the firm provides its customers.

Studies on service quality using SERVQUAL concepts have already been realized in the medical area (Etgar & Fuchs, 2009). These authors applied the concepts of SERVQUAL to explore which are the dimensions that lead customer to satisfaction in the cognitive, emotional and conative levels. Adopting a similar line, this paper employs the same approach to determine

which are the dimensions of SERVQUAL that lead customer to satisfaction in diverse roles played by him along the service operation chain.

Customer Roles

In the vast majority of the service, the customer take part of the process, as argued by Harvey (1998): the greater the knowledge that the customers have about the service, the greater the chance of providing a high quality service and, under this perspective is possible to note that the customer is an active part in obtaining the final result. Is exactly under this point of view that Chase (1978) questions where the customer fits into the operation of the service.

Evaluating the service from the perspective of a production chain, the customer, according to Junior and Miyake (2009) can take eleven roles as Figure 1:

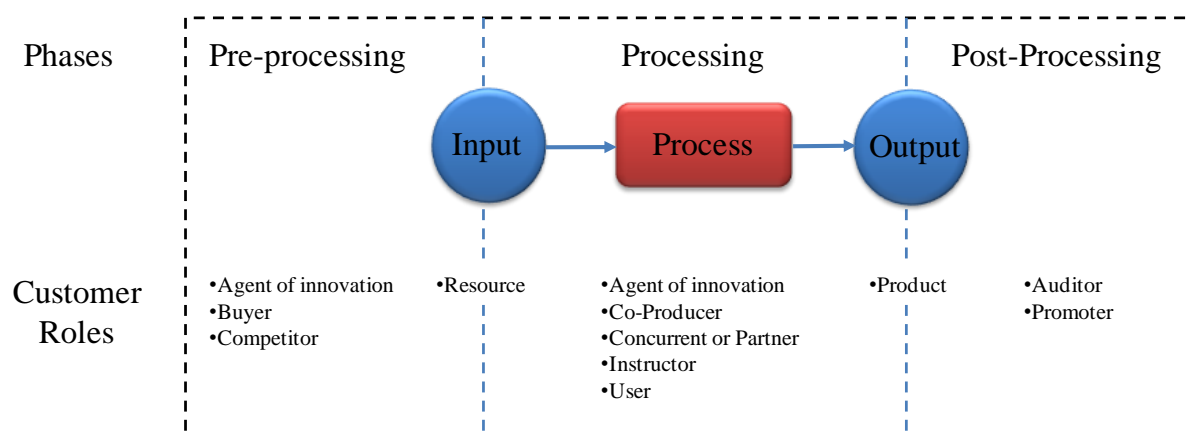


Figure 1 - Possible roles assumed by the customer along the service operation chain

Source: (Júnior & Miyake, 2009)

All these roles assumed by the customer are found in the service chain related to fitness, for example, the customer during the processing phase (exercises), he assumes the role of co-producer of the service, once is the customer itself that realize all the fitness conditioning exercises to obtain the desired final result. In the post-processing, the customer can assume the role of auditor of compliance by evaluating the services and at the same time as a promoter if he

recommends or not the service provider. This work is limited to the role of buyer, co-producer and promoter, thus, this research will employ the SERVQUAL focusing on the customer assuming the three roles mentioned above. The adoption of these three roles of the customer in the evaluation the service quality is based on work developed by Mentzer et al, (2001), in which those authors has demonstrated that different customer segments, prioritize different factors to lead them to satisfaction. In a similar way, it is suspected that the customers, once play different roles in the service operation chain, may have a different perception of quality of service that lead to satisfaction and recommendation.

METHODOLOGY

This work was based on the exploratory quantitative research, and the instrument for this was a survey employing structured questionnaire and semi-structured questionnaire to proceed with a triangulation for further data analysis

It was defined an initial sample of 150 customers of several fitness gym around Brazil. (CNAE- 9313-1), there was no limitation of the size of the enterprise. In order to avoid the influence of the owner of the fitness gym, the author has contacted directly the customers of these fitness gyms and kept the anonymity of the respondent. The definition of the customer of the fitness center was done through convenience of information access. The request to answer the questionnaire was done by personal and e-mail contact. From the 150 initial contacts; 61 has answered, representing an answer rate of 40.6%. The questionnaire was available at the internet since December/2009 to February/2010 and the tools Google Docs® was employed in order to facilitate the follow-up, collecting and data treatment.

Scale and Validating the Questionnaire

The design of the questionnaire and the variables was based on the work of Parasuraman et al. (1988) e Etgar e Fuchs (2009). These works were applied to measurement of various service

industries and medical service. In the present work, the questionnaires were adapted and adjusted to be able to apply at the fitness industry. To create the final questionnaire, a pre-test with 17 people was conducted, and then adjusted to obtain the final model.

To study the service quality from the perspective of the co-producer, five questions to measure reliability were adopted, four questions to measure responsiveness, reliability and empathy and six questions to measure tangibility, and Likert scale from 1 to 7 was used. To measure the perceived service quality of the customer under the role of the buyer, one question for each dimension of SERVQUAL with Likert scale from 1 to 7 was employed. To measure the satisfaction, one question was employed to verify the overall satisfaction of the customer. And another to verify the recommendation of the customer (recommend or not). The scale for the satisfaction variable varies from 1 to 10 and for the recommendation a dummy variable was adopted. Still in the issue related to satisfaction/recommendation, is available in the questionnaire a semi-structured questions for the respondent to express the reason for the recommendation of the service. With these informations is possible to proceed a triangulation with the quantitative data obtained previously.

After obtaining the answers, the data of measuring service quality from the perspective of the co-producer-customer will be treated by exploratory factor analysis with principal components method to validate the consistency of the questions. The complete questionnaire can be found in Appendix of this paper.

RESULTS

As described in the Table 1, the sample of this study consists of 61 respondents, with 22 female and 39 male. In this sample 42 attend the gym at the time of the survey and 19 have attended the gym in the past two years. The vast majority of respondents (50.8%) exercise at the gym considered small with numbers of instructors up to 10. Another interesting fact is the

frequency of exercises of the respondents, approximately, 83% attend the gym three or more times per week.

Table 1 - Descriptive Statistics of Sample (Part I)

	Frequency	%
Sex		
Female	22	36,1
Male	39	63,9
Attend gym at present moment?		
Yes	42	68,9
No	19	31,1
Size of the Gym		
Blank	1	1,6
Small	31	50,8
Medium	19	31,1
Big	10	16,4
Weekly frequency at the gym		
1 to 2 times	6	9,8
3 times	22	36,1
more than 4 times	29	47,5
Not regular	4	6,6

According to Table 2, the period used for exercising is primarily nocturnal, and for 23% of respondents there is no preference in the period to exercise. Among the respondents, 19.7% use service of Personal Trainer, a highly customized training program and follow-up service. The sample consists of 6 different states, of which Sao Paulo represents 59% and followed by Minas Gerais with 24.6%.

Table 2 - Descriptive Statistics of Sample (Part II)

	Frequency	%
Period that use to attend the gym		
Morning	12	19,7
Afternoon	7	11,5
Night	28	45,9
Not regular	14	23
Do you use Personal Trainer Service		
Yes	12	19,7
No	49	80,3
Distribution of the states		
Blank	5	8,2
Alagoas	1	1,6
Amazonas	1	1,6
Minas Gerais	15	24,6
Paraná	1	1,6
Rio de Janeiro	2	3,3
São Paulo	36	59

The average age of the respondent is 28.49 years with a standard deviation of 5.97. The age distribution shows a concentration around 25 years and is not a symmetrical distribution as shown in Figure 2

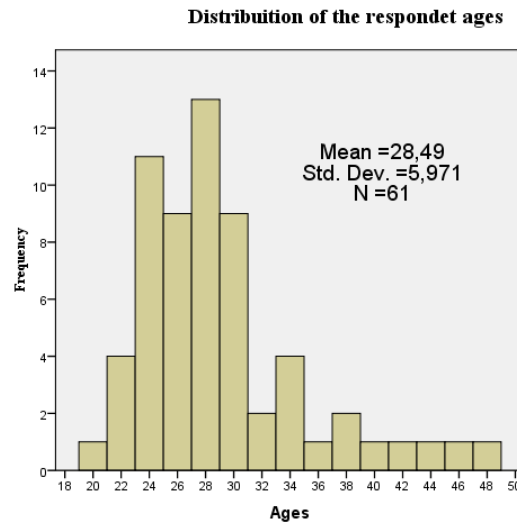


Figure 2 – Age distribution of the respondent

By the Figure 3 is possible to note that 50% of respondents have a relatively high satisfaction about the service of the gyms. The average satisfaction is 7.39 from a range of 1 to 10 and a standard deviation of 1.84. It is possible to note in the same figure that there are two outliers in the sample (element 59 and 29), which deserves further investigation.

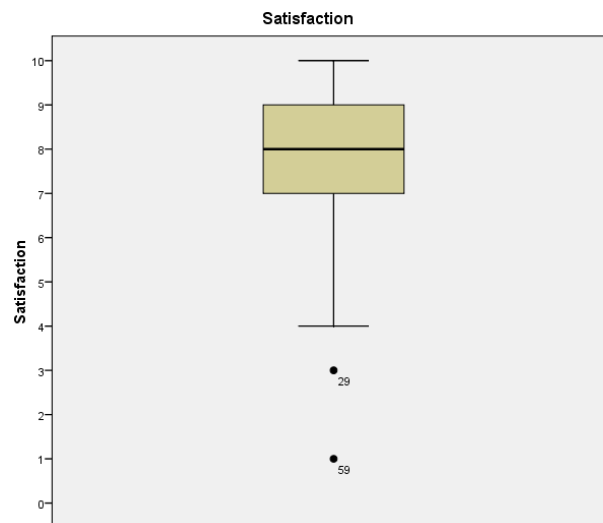


Figure 3 – Satisfaction Distribution of the respondent

As seen in the Figure 3, more than 50% of respondents are satisfied with the fitness gym which is reinforced by the high rate of recommendation as shown in Table 3. This variable is composed of 56 responses that recommend and five responses that do not recommend the service. Interestingly, among the respondents that do not recommend the service, there is a respondent who uses the service of personal trainer.

Table 3 – Recommendation versus Personal Trainer usage.

	<i>Personal Trainer</i>		Total
	Não usa	Usa	
Não Recomenda	4	1	5
Recomenda	45	11	56
Total	49	12	61

Factor Analysis – Customers’ perception as a co-producer.

The validity and reliability of the factor analysis were conducted based on procedures suggested by Fávero et al (2009) e Hair et al. (2006). To perform the factor analysis, principal components technique and varimax rotation was employed. Complementing the factor analysis, Kaiser-Mayer-Olkin Test (KMO) and Bartlett's Test of sphericity were realized.

To measure the five constructs of the SERVQUAL model a questionnaire of 23 items was used and divided as: Reliability (5 items), Responsiveness (4 items), Assurance (4 items), Empathy (4 items) and Tangibility (6 items). Remember that these questions have as purpose the measurement of the perceived service quality under the point of view of in customer/co-producer and the questionnaire was based on a previously validated questions suggested by Etgar and Fuchs (2009), so the factor analysis in this paper is to verify the consistency of the questions prepared for each construct. The result of this analysis is shown in Table 4

Table 4 - Results of factor analysis of the questions related to customer perception as Co-producer

Factors	Item	Factor Load	KMO	Bartlett's Test of Sphericity	Eigenvalue	Explained Variance
Reliability	5	0,815 - 0,880	0,816	189,0 ; p = 0,000	3,603	72,06
Responsiveness	4	0,631 - 0,948	0,763	147,1 ; p = 0,000	2,871	71,77
Assurance	4	0,824 - 0,898	0,815	131,0 ; p = 0,000	2,987	74,69
Empathy	4	0,894 - 0,950	0,817	210,82 ; p = 0,000	3,337	83,42
Tangibility_1	3	0,790 - 0,858	0,778	205,57 p = 0,000	3,571	59,52
Tangibility_2	3	0,607 - 0,797			1,100	18,33

The Table 4 shows that all constructs have a KMO value greater than 0.6, and the Bartlett test that are significant. The cutoff eigenvalue 1.00 was employed, and as seen in the Table 4, all of them present values above the limit established. An interesting observation presented by the construct Tangibility. Initially it was estimated that the 6 questions should represent the same construct, but through the analyses it was splited in two:

- *Tangibility_1*: This construct measures the items related to the perception of adequacy of equipment and modernity, clean look of the fitness instructors and the perception of pleasantness of the facilities. And this factor is responsible for 59.52 of total variance related to tangibility.
- *Tangibility_2*: This construct measures the items related to clarity of the instructions given by the fitness instructors, as well as the perception of pleasantness in terms of space (capacity) and the people who frequent the establishment. It accounts for 18.33 of total variance related to tangibility.

Influence at the recommendation – comparative study between the perspective of the customer as co-producer and buyer.

Aiming the purpose of this study, it is realized in this section the comparative study of the dimensions of the SERVQUAL based on the perception of the customer under the role of the co-producer and the perception of the customer under the role of buyer. The names for the variables are represented in the Table 5:

Table 5 – Variable name used for the comparison study

Dimensions of SERVQUAL	Name of the variables	
	Client as co-producer	Cliente como comprador
Reliability	Reliability	Reliab
Responsiveness	Responsiveness	Respons
Assurance	Assurance	Assur
Empathy	Empathy	Empat
Tangibility	Tangibility_1	Tangib
	Tangibility_2	

First of all, this study has adopted all the cases that have recommended the services provider and for the comparison reference, the satisfaction and SERVQUAL scores basing on the customer at the role of the buyer were used. Under buyer perspective, the dimension of SERVQUAL that has influenced most the satisfaction is the reliability, this means, the result delivered by the service provider is the most important in the point of view of the customer as a buyer, and the least important is the empathy (Table 6).

Table 6 - Influence of the dimensions of SERVQUAL on the Satisfaction under the perspective of the buyer

Influence of the dimensions of SERVQUAL on the Satisfaction under the					
	N	Minimum	Maximum	Average	Standard Deviation
Tangibility	56	3,0	7,0	6,125	1,046
Reliability	56	4,0	7,0	6,393	0,888
Responsiveness	56	4,0	7,0	6,214	0,948
Assurance	56	4,0	7,0	6,286	0,909
Empathy	56	3,0	7,0	5,982	1,243

To compare the perception of the customer under perspective of co-producer and buyer, it was adopted the pair sample test of the dimensions of SERVQUAL at significance level of 0.05. This result is illustrated in Table 7

To perform the test, the following hypotheses were assumed with $\alpha = 5\%$

H₀: Difference of the means = 0;

H_a: Difference of the means is not equal to zero.

Table 7 - Comparison of influence of the average score for the SERVQUAL dimensions on the satisfaction between customer perception as Co-producer and as buyer – Sample composed by those with recommendation = yes

Paired Samples Test

Par	Paired Differences			t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean				
	1	Tangib - Tangibility_1	0,59				1,05
2	Tangib - Tangibility_2	0,66	1,26	0,17	3,936	55	,000
3	Reliab - Reliability	0,90	1,19	0,16	5,633	55	,000
4	Respons - Responsiveness	0,71	1,37	0,18	3,912	55	,000
5	Assur - Assurance	0,49	1,23	0,16	2,998	55	,004
6	Empat - Empathy	0,39	1,63	0,22	1,808	55	,076

Among the pair tested, only the pair empathy has accepted the null hypothesis, this represents that the empathy is the least influent in Satisfaction under both perspective (Table 6 and Table 7). Meanwhile, the others pairs presented p-values lower than 0.05, leading to the rejection of all others hull hypothesis tested, consequently demonstrating different dimension of SERVQUAL guiding to Satisfaction under these different perspective. In addition, these differences also suggest evidences concerning the tolerance that a customer can support when there is difference between expected and perceived quality. Afterwards, the same pair test was conducted with the sample of respondent that have not recommended the service, and the influence of the SERVQUAL dimension over the Satisfaction are not equals under the perspective of co-producer and buyer, excepts Tangibility_1, as illustrated in Table 8

Table 8 - Comparison of influence of the average score for the SERVQUAL dimensions on the satisfaction between customer perception as Co-producer and as buyer – Sample composed by those with recommendation =no

Paired Samples Test

Par	Paired Differences			t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean				
	1	Tangib - Tangibility_1	2,07				3,10
2	Tangib - Tangibility_2	2,60	2,06	0,92	2,82	4,00	0,05
3	Reliab - Reliability	2,96	1,80	0,80	3,68	4,00	0,02
4	Respons - Responsiveness	3,55	0,82	0,37	9,71	4,00	0,00
5	Assur - Assurance	2,60	1,86	0,83	3,13	4,00	0,04
6	Empat - Empathy	3,15	2,18	0,97	3,24	4,00	0,03

Factors of Recommendation / Satisfaction

According to Dabholkar (2005) Chen (2008), Crosby (1987). e Jaiswal (2008), the service quality and customer satisfaction are different construct but correlated. As they argued, the satisfaction may, also, results from factors that are not related to quality, such as perception of fairness, necessity of the customer, or experience of the service provider. Therefore, this session aims to find out which are the elements of the service quality that the respondents have indicated as factors that influenced the recommendation. Initially, it was adopted here the employment of the logistic regression with p-value of 0.05. However, the result of logistic regression did not return any significant coefficient at level of 5%, then to study this issue it was unemployed the correlation matrix among the dimensions of SERVQUAL with Satisfaction and Recommendation (Table 9). Through the correlation, it was possible to notice that recommendation and satisfaction vary positively according the service quality and this is in accordance with previous researches conducted by Dabholkar e Overby (2005), Chen (2008), Crosby (1987) e Jaiswal (2008) and the factors that have contributed most with the recommendation are: satisfaction, followed by responsiveness, meanwhile, the satisfaction is influenced mainly by responsiveness and reliability of the service.

Table 9 – Correlation among dimensions of SERVQUAL, Satisfaction and Recommendation

Correlations								
	Recommendation	Satisfaction	Reliability	Responsiveness	Assurance	Empathy	Tangibility_1	Tangibility_2
Recommendation	1							
Satisfaction	0,688	1						
Reliability	0,314	0,755	1					
Responsiveness	0,505	0,802	0,787	1				
Assurance	0,315	0,709	0,903	0,815	1			
Empathy	0,336	0,667	0,829	0,805	0,901	1		
Tangibility_1	0,265	0,639	0,548	0,64	0,48	0,404	1	
Tangibility_2	0,362	0,722	0,75	0,7	0,717	0,655	0,526	1

To make the triangulation with the quantitative results, the answers to the semi-structure questionnaire concerning the reason of the recommendation were compiled and the results is illustrated in Table 10

Table 10 – Factor of recommendation extracted with the semi-structured question.

Reliability	Responsiveness	Assurance	Empathy	Tangibility	Social	Convenience	Cost	Monopoly	Emotional
15	19	21	19	26	3	3	6	1	1

Through the Table 10, it is possible to realize that the factor tangibility is one that most contributes to the recommendation, followed by assurance and responsiveness. When confront these informations with the Table 9, under the perspective of co-producer, the recommendation is more influenced by the responsiveness, reliability and tangibility_2. Still employing the comparison with the both tables, it is possible to notice that there is evidence that the service quality can influence the recommendation; however, the dimension of the service quality that impacts the recommendation can be different when the customers assume different perspective at the service operation chain, in this case, the most influent under co-producer perspective is the responsiveness and under the promoter perspective is tangibility

RESULT ANALYSIS

In the literature of service quality, one of the subject discussed is the tolerance that a customer can support when there is a discrepancy between expectation and perceived quality (Harvey, 1998; Johnston & Michel, 2008), these differences can be understood as a result of the difference between the service quality perception between the customer playing the role of a buyer and a co-producer. In the first part of the results, at the Table 7, it was noticed that there is an evidence of difference factor of service quality influencing in the recommendation when the customer assumes different roles in the service operation chain. For those that have recommended the service provider, only the factor empathy is equally important under the perspective of the buyer and co-producer. With the informations of Table 7, cross check was done with the Table 8, and it was noticed that among those that have not recommend the services,

when assuming different roles, only the factor tangibility was considered having the same impact on the satisfaction. With this cross checking, it was possible to infer that only tangibility of the service is not enough for recommendation and this understanding is supported by Table 9, when the tangibility_1 was one with the lowest correlation with recommendation and satisfaction under the perspective of the co-producer role (tangibility_1, which is related to equipments and aesthetic).

Continuing the analysis of the results, the Table 9 has demonstrated positive correlations among recommendation, satisfaction and dimensions of service quality and these positive correlations are according with the findings suggested Dabholkar e Overby (2005), Jaiswal (2008), Chen (2008), Crosby (1987), in addition, through the triangulation of the results it is possible to notice that recommendation under different role of the customer can be influenced by different service quality factors, for example, customer as co-producer the responsiveness is the most important factor for satisfaction (Table 9), meanwhile, as promoter, the tangibility is the most important (Table 10) and as buyer, the least important is empathy (Table 6)

To investigate more the recommendation under perspective of co-produce and promoter, a triangulation of data was done between recommendation satisfaction and service quality (Table 11). Through this table, it was noticed that seven cases of recommendation presents level of satisfaction below average (7.39). In these cases, it is suspected that the recommendations are not connected with the service quality, once all of them have attributed low score to all the dimension of SERVQUAL, so to carry on the analysis; these seven cases were extracted from database to be analyzed separately.

Table 11 - Distribution of Recommendation x Level of Satisfaction

	Score of Satisfaction									Total
	1	3	4	5	6	7	8	9	10	
Not Recommend	1	1	3	0	0	0	0	0	0	5
Recommend	0	0	1	3	3	16	16	12	5	56
Total	1	1	4	3	3	16	16	12	5	61

Low level of satisfaction x Recommendation - Analysis of service quality

Extracting the cases of recommendation with low satisfaction and comparing their average scores of dimensions of SERVQUAL with those with high satisfaction, the result of this comparison has shown that the null hypothesis was rejected (Table 12). Remembering, the α of the test is 5% and H_0 : Difference = 0

Table 12 - Comparison of SERVQUAL scores between respondents who has recommended with high satisfaction and low satisfaction

Paired Samples Test						
Par	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Servqual_Satisf_High - Servqual_Satisf_Low	2,195	0,263	0,107	20,470	5	0,000

This difference between the scores of SERVQUAL (High satisfaction and low satisfaction) means that the factors of recommendation, in these cases, are not related to the service quality and for new verification, the data are cross checked with Table 10 and it was noticed that the recommendation with low satisfaction was related with possibility to establish a emotional and social network, monopoly or financial issues (cost)

Finally, when comparing the factors for recommendation between the role of buyer and promoter, it was found that they are also different, once the buyer emphasize more the reliability (outcome of the service), at the role of promoter is the tangibility that the service can provide (location, equipments, and aesthetic)

DISCUSSION AND FINAL CONSIDERATIONS

The results obtained and the analysis has shown that there is difference service quality dimension that influence on the recommendation and satisfaction when the customers assume different roles through the operation service chain. The result at the Table 6 and Table 7 has demonstrated, statistically, that the empathy is the least influent at the recommendation when

customer assumes the role of co-producer and buyer. However, when comparing with the Table 8, it was inferred that only the satisfaction at the tangible dimension of the services is not synonym of overall satisfaction nether recommendation. The results of the Table 7 and Table 8 also contribute with the researches about the tolerance that the customer can support when faced with a gap between expected and perceived quality (Harvey, 1985), once some dissatisfied respondent might not have opted for the switching of the service provider due to the cost or lack of options.

Carry on the study, when comparing the several dimensions of SERVQUAL that drive to recommendation under perspective of co-producer and promoter, it was also possible to identify, that at different roles, the customer emphasize different dimensions for recommendation. When the customer assumes the role of co-producer, the most influent dimension of SERVQUAL is the responsiveness (correlation with recommendation = 0,505) and followed by tangibility_2, which is related to pleasantness of the place and people that attend the gym (correlation with recommendation = 0,362). The influence of this type of tangibility can be sustained by the founding of Noone (2009), who has suggested that the perceived crowding can influence at the satisfaction.

To finalize the comparison among the roles, it can be inferred that under the role of co-producer, the customer emphasizes the responsiveness once he needs the assistant promptly to make the service more productive and more efficiently, and this might be one of the reasons that responsiveness is the most impacting in satisfaction at this role. On the other hand, at the buyer role, the customer are in search of the result that a service provider can supplies, then, reliability is so important for the satisfaction of the customer when he plays the role of buyer. And as promoter, the best way to recommend a service is the tangible aspect, and this might be the reason when the customers recommend the service provider, they emphasize the tangible aspect of the service.

When the reason of recommendation was investigated, this study faced the recommendation with low level of satisfaction, and it was possible to discover that the customers of this category, despite of not satisfied with the service, they recommend based on motivations such as: financial aspect, possibility to establish an emotional and social network or lack of options.

Another interesting finding is concerning the mediating effect of satisfaction on the recommendation. Through the correlation matrix of the Table 9, the recommendation is highly correlated with satisfaction (correlation = 0.688), and on the other hand, the satisfaction is highly influenced by the service quality (correlations above 0.6), then the mediating effect of satisfaction comes to mind at the result analysis.

This paper is restricted to an exploratory quantitative study with a sample that has limited the study to employ the logistic regression. However, this study has contributed with the previous studies when it has found that satisfaction is correlated positively with service quality, but the decision of recommend or not the service provider depends on more factors than the simply quality and satisfaction.

This study has also contributed with service quality by founding evidences that the customers, when assuming different roles along the service operation chain, emphasize different service quality dimension as driver of satisfaction and recommendation. Basing on this study, several possible suggestions for future researches are proposed:

- 1) Creation of two sample groups: one with customers in the role of buyer, exclusively, and another group of customer as co-producers, exclusively and conduct the research imposing the independence of these two groups to test the difference of service quality dimension that drives to satisfaction.
- 2) Refine the operationalization of the construct satisfaction and recommendation, as well as detailing the dimensions of SERVQUAL in the role of buyer.

- 3) Extend the research to other service industries and compare the difference between the drivers of satisfaction based on service quality dimension at diverse roles and diverse industries
- 4) Proceed a discriminant analysis to verify the satisfaction variation according to the age of the service taker as well as their habits and compare their different perception of SERVQUAL dimensions.

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APPENDIX

General Questions

1. Occupation (optional)
2. Brazilian state where you attend fitness center (SP, MG, RJ, etc..)
3. City and neighborhood where is located the fitness center that you attend or used to attend
4. Currently, do you attend any fitness center?
 Yes
 No
5. For how long you have attended or you used to attend the fitness Center?
6. In case you don't attend the fitness Center, how long have you stopped attending?
 Less than 6 months
 6 months to 1 year
 More than 1 year
7. Sex

Male

Female

8. Age

9. Value of the montly payment to the fitness center

10. How many professsor there are in your gym?

Less than 5

5 a 10

10 a 20

More than 20

Others:

11. Normally, how ofen do you attend or used to attend the gym per week?

1 to 2 times

3 times

more than 4

Vary

12. Period that you used to excercise?

Morning

Afternoon

Night

Vary

13. What is or are your targest at the fitness Center?

14. Do you use personal trainer services?

Yes

No

15. What are the activities that you practice at the fitness Center?

16. Do you recommend the fitness center that you attend to the others?

Yes

No

17. Reason why you recommend or not recommend the fitness Center that you attend.

Questions concerning the service quality under point of view of an co-producer

Reliability

C1 - The services provided, as well as recommended exercises, are the way I expected

C2 - I can trust the teachers leading me to achieve desired and planned results

C3 - Problems related to physical conditioning were solved through the training program offered by the instructors.

C4 - The instructor accepted me at the time set.

C5 - In case of delay or unavailability of the instructor, I am notified in advance or served by another qualified professional

Prontidão

P1 - . The services and installations was prompt

P2 - . The instructors and others professionals of the gym showed a lot of willingness to help

P3 - . The instructors and others professionals of the gym were ready to respond to my requests

P4 - . I felt that the instructors were dependable

Assurance

S1.- I trusted the training program that the instructor provide me

S2.- I trusted in the physical evaluation done by the professionals of the gym as well as the instructors.

S3.- The instructor related to me courteously

S4.- The instructor had a wide knowledge regarding the fitness problem presented to him

Empathy

E1. - The instructor demonstrated individual attention

E2. - The instructor treated me in a caring and considerate fashion

E3. - I sensed that the instructors were truly interested in solving my problem

E4. - The instructors showed understanding towards my special needs

Tangibility

T1. - The fitness center was modernly and well equipped”

T2. - The facilities of the fitness center were pleasant and appealing

T3. - The instructor’s appearance was neat and professional

T4. - The instructions given for the exercises were clear and understandable

T5. - The room destined to the exercise are always pleasant and with adequate spaces

T6. - The people that attend the fitness Center are pleasant and friendly

Satisfaction

1. What is your overall satisfaction about the fitness Center that you attend?

Questions concerning the service quality under point of view of a buyer

Tabgibility (Tangib)

- Physical facilities, equipment, and appearance of personnel

Reliability (Reliab)

- Ability to perform the promised service dependably and accurately

Responsiveness (Respons)

- Willingness to help customers and provide prompt service

Assurance (Assur)

- Knowledge and courtesy of employees and their ability to inspire trust and confidence

Empathy (Empat)

- Caring, individualized attention the fitness center provides its customers.