

André Luís Policani
Freitas¹
Thays Silva Lacerda

FITNESS CENTERS: WHAT ARE THE MOST IMPORTANT ATTRIBUTES IN THIS SECTOR?

Article info:
Received 04.04.2018
Accepted 08.09.2018

UDC - 769.015.132
DOI - 10.24874/IJQR13.01-11

Abstract: *Several studies have been conducted to identify the factors that most influence on service quality and customer satisfaction in the fitness industry. However, little attention has been dedicated to the identification of the most relevant attributes. This study aims to fulfill this gap and suggests that it is also necessary to identify the factors and the attributes which are most important concerning the perceptions of customers of fitness centers. Based on the scientific literature, a 23-item questionnaire was designed and a sample of 368 customers of four Brazilian fitness centers was considered. Factorial analysis and Quartile analysis revealed that the most important factors are related to Workout facilities & Price and Staff. The fitness equipment must be varied and in sufficient quantity, besides being in perfect working order. Special attention should be dedicated to the instructors' politeness and competence, and the accuracy of information they provide. The overall cleanliness of the fitness center and the value of service are also important.*

Keywords: *Fitness centers, Service quality management, Fitness attributes, Customer behavior*

1. Introduction

The modern man's lifestyle has been observed around the world. The concern with sedentarism and the pursuit for health are fundamental in the introduction of the physical exercises in the daily routine of the population. Over the last two decades, several studies (e.g. Afthinos, Theodorakis, & Nassis, 2005; Breesch, Vos, & Scheerder, 2015; Cheng, 2013; Lagrosen & Lagrosen, 2007) have reported the worldwide growing number of fitness centers. However, the resulting increase in the level of competitiveness among fitness centers has become an important issue that managers and researchers need to deal with.

In this context, an expansion strategy followed amongst the fitness chains is based on growing organically by using their own resources and/or expanding by market consolidation, i.e., by acquisition of their competitors (IHRS, 2007). On the other hand, despite the fact that the health and fitness market presents a low differentiation level in terms of service offering (Moxham & Wiseman, 2009), we believe that there is an opportunity to the fitness centers (specially the small and medium ones) to achieve competitive advantage by focusing on quality of services. First, it is necessary to understand that a fitness center or fitness club is a service-intensive business. Although it is not an easy task to provide high quality and satisfying services to all customers, it is, in fact, the main objective

¹ Corresponding author: André Luís Policani Freitas
Email: andrepolicani@yahoo.com; policani@uenf.br

for most fitness and health centers (Cheng, 2013).

Second, within this competitive global environment, one of the essential strategies for success, good functioning and survival of any service organization is the provision of superior service to customers (Cudney, Elrod, & Uppalanchi, 2012; Grönroos, 1984; Parasuraman, Zeithaml, & Berry, 1985; Sasser & Reichheld, 1990). This scenario is not different from the fitness industry. With high customer turnover, and the competition for customers, fitness centers managers need to cater customers demands (Macintosh, Doherty, & Walker, 2010) and develop strategic frameworks that include each of the attributes that target customers use to make their purchase decisions (Sheehan & Bruni-Bossio, 2015).

Understanding exactly which are the customers' needs and wants is a key point in total quality management (Griffin & Hauser, 1993). Customer needs are measured in terms of consequences, which are determined by asking customers directly what they are looking for in a product or service (Cudney et al., 2012), that is, it is necessary to identify the main attributes of a service process. Several scales have been developed and studies have been conducted in order to measure service quality and customer satisfaction in fitness centers, fitness clubs, sport centers and health clubs.

However, there is still no consensus about the most adequate scale and, specifically, the most adequate set of attributes or criteria to assess service quality in such organizations. Further, before we even attempt to measure service quality and customer's satisfaction in relation to the services provided by fitness centers, it is firstly necessary to identify the attributes and factors considered important by the customers.

To contribute to address the problem in question, an exploratory approach was conducted in Brazilian fitness centers to assess the importance degree of a set of attributes and, consequently, to identify the

most important factors and attributes to assess service quality concerning customers' perceptions.

2. Literature review

2.1. Service quality

The continuing growth and competition among fitness centers has led them to look for ways to differentiate themselves in order to retain existing members and attract new customers. One element of differentiation available at fitness centers is that of delivering exceptional levels of service quality (Moxham & Wiseman, 2009).

In spite of the several scientific works focused on the service quality field, there are still some lacks of consensus among managers and researchers concerning the concept of service quality (Freitas & Costa, 2012). However, the concept of quality of service is intrinsically related to the understanding of the concept of service and to some distinctive features of service operations (Papadimitriou & Karteroliotis, 2000).

"Services are a form of product that consists of activities, benefits, or satisfactions offered for sale, that are essentially intangible and do not result in the ownership of anything" (Kotler & Armstrong, 2012). "Services are performances rather than objects, thus, precise manufacturing specifications concerning uniform quality can rarely be set". Services are heterogeneous, thus, "their performance generally varies from producer to producer, from customer to customer, and from day to day". Since "most services are intangible, they cannot be counted, measured, inventoried, tested and verified in advance of sale to assure quality" (Parasuraman et al., 1985). Services are produced and consumed simultaneously. Because services cannot be stored, they are perishable. Specifically, they are lost forever when not used and, in such cases, a lost opportunity has occurred. This inability to

inventory services prevents the use of the traditional manufacturing strategy of depending on inventory as a buffer to absorb oscillations in demand. Thus, the full impact of demand variations is transferred to the system (Fitzsimmons & Fitzsimmons, 2006). All those characteristics are present in the services performed at fitness centers. For instance, fitness equipments that were not occupied by customers cannot be allocated to another occasion, as in high demand periods (intangibility and perishability), the results of uncorrect exercises programs or weights used by customers can be perceived immediately and they eventually can produce severe muscle injuries (simultaneity), and the attendance of instructors may vary at certain times (heterogeneity). Moreover, fitness centers are also noticed as having special distinctive features that are associated with the close participation of fitness centers members in the production and service consumption (Chelladurai, 1992;

Moxham & Wiseman, 2009). On the other hand, the high turnover of staff and customers and because the fitness industry is highly seasonal, it has been even harder to measure service quality in this sector. Thus, a brief description of the quality of services in the fitness industry is necessary.

2.2. Service quality scales in the fitness industry

Studies in the fitness sector have specific attributes and scales aimed at measuring the service quality and customer satisfaction of this branch of services. However, it has been up to each researcher or practitioner to verify among the studies of greater relevance, the main attributes and dimensions related to the services provided by fitness centers. Table 1 summarizes the fitness centers quality scales and dimensions used in prior studies and a brief description of each study is presented below.

Table 1. Researches, fitness centers quality scales and dimensions in prior studies.

Research	Scale	Dimensions (Factors)
Chelladurai et al., 1987	SAFS	Primary core professional services, primary core consumer services, primary peripheral services, primary facilitating goods, secondary consumer services and facilitating goods.
Kim & Kim, 1995; Afthinos et al., 2005.	QUESC	Ambiance, employee attitude, reliability, information giving, programming, personal consideration, price, exclusivity, ease of mind, convenience, stimulation, and social opportunity.
Triadó et al., 1999		Quality of facilities, human resources quality, cost, communication and importance of the social environment.
Chang & Chelladurai, 2003	SQFS	Service climate, management commitment to service quality, programmes; Interpersonal interaction, task interaction, physical environment, other customers, service failures/recovery; and perceived service quality.
Lam et al., 2005; Albayrak & Caber, 2014; Moreira & Silva, 2015.	SQAS	Staff, program, locker room, physical facilities, workout facilities, and child care.
Morales & Gálvez, 2011	CECASDEP	Sports facilities, attention to the user, sports spaces, dressing room, program of activities, teacher or monitor.
Yildiz, 2011.	SQS-FC	Personnel, physical environment, supporting services, and program.
Yildiz & Kara, 2012.	QSport-14	Staff, programme and installations.
Nuviala et al., 2015.	EPOD2	Perceived quality, satisfaction; and value of service.
Vieira & Ferreira, 2017	-	Employee competences, facilities, core services, complementary services.

Chelladurai, Scott, and Haywood-Farmer (1987) developed the SAFS scale (Scale of Attributes of Fitness Services) to measure the extent to which each attribute or dimension proposed in the theoretical model influenced consumers' choice of fitness clubs. Data from 436 customers of Canadian fitness centers were collected in order to measure the degree of influence of certain factors in the decision to purchase fitness services. ANOVA, item-total correlations and internal consistency measures were used to construct a model that represent the members' experience in fitness centers. The resulting model consists of five dimensions: Primary core professional services (D₁); Primary core consumer services (D₂); Primary peripheral services (D₃); Primary facilitating goods (D₄); and Secondary consumer services and facilitating goods (D₅). The authors reported that fitness clubs often emphasize the secondary goods and services in their marketing efforts in order to differentiate from their competitors. However, the study revealed that all groups ranked secondary services and facilitating goods as the least important dimensions. In addition to performing the proposed measurement, the instrument showed significant internal consistency.

Kim and Kim (1995) developed the QUESC (Quality Excellence of Sports Centers) instrument to evaluate the quality of services provided in sports centers in Korea. The initial QUESC instrument consisted of 45 scale items listed in pairs, which were written separately in a two-part questionnaire. The first part elicited responses concerning the desirability of a list of scale items, while the second part asked respondents to indicate the level of service delivered by their sport center for each item. The research was carried out with 271 members, and it has shown that there are potentially 12 distinct dimensions of sport centers' service quality: ambiance, employee attitude, reliability, information, programs, personal considerations, social opportunity, price, privilege, ease of mind, convenience,

stimulation, and. More specifically, cleanliness, security of personal goods, convenient schedules, convenient access to the facilities, preparedness for emergency, and provision of safety education were found to be the most desirable attributes.

Triadó, Aparicio and Rimbau (1999) conducted a study to identify the factors (dimensions) that most impact customer satisfaction in sport centers. A sample of 698 customers from fifteen sports centers in Barcelona (Spain) were considered and a factorial analysis resulted in five factors: facilities, human resources, money, communication and importance of the social environment. A multiple regression model was constructed to verify the relative importance of such factors in customer satisfaction. The results indicated that improvement actions should focus on Human resources (F₂), Facilities (F₁), Communication (F₄), and Price policy (F₃), in this order.

Afthinos, Theodorakis, & Nassis (2005) used the QUESC scale (Kim & Kim, 1995) to measure the service quality in Greek fitness centers. The results indicated that the tangible attributes of the facilities, attitudes and abilities of staff, the attributes related to the cost of participation and programming and scheduling of the services were the most desirable aspects of service delivery in Greek fitness centers.

Chang & Chelladurai (2003) developed the Scale of Quality in Fitness Services (SQFS) Confirmatory factor analyses were conducted and the resulting factorial solution was composed of 35 items distributed into nine independent factors (Service climate, Management commitment to service quality, Programmes from the input stage; Interpersonal interaction, Task interaction, Physical environments, Other customers, Service failures/recovery from the throughput stage; and Perceived service quality from the output stage).

Lam, Zhang, and Jensen (2005) developed the Service Quality Assessment Scale

(SQAS) to measure the service quality of health and fitness clubs. Exploratory factor analysis, confirmatory factor analysis and an invariance test across gender were performed to construct a 31-item questionnaire divided into 6 factors (Staff, Program, Locker room, Physical facilities, Workout facilities, and Child care).

Albayrak & Caber (2014) used the SQAS scale (Lam et al., 2005) to identify the service attributes of a fitness club situated in the city centre of Antalya (Turkey). Symmetric influences of the attributes on overall customer satisfaction were analysed by Importance-Performance Analysis (Martilla & James, 1977) and the Penalty-Reward-Contrast Analysis (Busacca & Padula, 2005) was used to investigate the asymmetric influences of the service attributes. The IPA results suggest that Staff, Locker room and Workout facility are factors that service companies should focus on, being both important and performing well. The results also reveal that Workout facility is a basic factor, Locker room is a performance factor and Staff is the only service attribute which has the power to influence customers' overall satisfaction.

Morales and Gálvez (2011) developed the Perceived Quality Assessment Questionnaire in Sports Services (CECASDEP). A pilot test was conducted to evaluate the reliability and validity of the questionnaire using 110 respondents from fitness centers in the municipalities of Velez-Málaga and Ronda (Spain). In its first version, the questionnaire was composed of 71 items, which were reduced in later versions. The responses were collected using a continuous scale varying from 1 (Strongly disagree) to 5 (Strongly agree) concerning six scales: Sports facilities; Attention to the user; Sports spaces; Dressing room; Program of activities; Teacher or instructor. As the factorial structure and Cronbach's alpha found were appropriate, this study qualifies and designs CECASDEP as a valid, reliable and accurate tool.

Yildiz (2011) developed the Service Quality Scale for Fitness Centers (SQS-FC) for assessing service quality in fitness centers. A sample of 246 customers of fitness centers in Turkey was considered and Factor analysis was conducted. The resulting scale was composed of four factors (Personnel, Physical environment, Supporting services, and Programs). The IPA revealed that programs, personnel and physical environment were the most important factors for fitness center customers.

Yildiz & Kara (2012) proposed the QSport-14 scale to measure service quality in physical activity and sports centers. The questionnaire was composed of 14 items distributed into 3 dimensions (Staff, Programme and Installations). A sample of 164 customers of fitness centers was considered and Confirmatory Factor Analysis was conducted. The results indicated that the Programme dimension was the most important factor for the largest segment of customers.

Moreira & Silva (2015) developed an evaluation model to investigate service quality, satisfaction, trust and commitment as loyalty antecedents in a private Portuguese healthcare unit. Four dimensions were used from the original SQAS scale developed by Lam, Zhang, & Jensen (2005) for service quality evaluation. The results indicate that adapted SQAS constructs are both valid and meaningful in accessing service quality in healthcare.

Nuviala, Grao-Cruces, Nuviala, & Fernández-Ozcorta (2015) used structural equations to verify the relationship between service quality and user satisfaction, as well as to identify the relationship between perceived value and customer satisfaction. Data were collected through the EPOD2 questionnaire (Nuviala et al., 2013), which consists of 25 items. It focuses on three areas of assessment: perceived quality (20 items, 6 factors); satisfaction (4 items); and value of service (1 item). The analysis of the questionnaires answered by 2667 users of 78

Spanish fitness club indicated quality as an antecedent of perceived value and user satisfaction.

Vieira & Ferreira (2017) proposed the use of the blue ocean strategy to comprehend the current strategic positioning of fitness clubs regarding the quality dimensions. The study was conducted to a sample of 151 fitness club managers in Portugal. The results of the exploratory factorial analysis revealed that the main factors in the strategy of fitness clubs are associated with the employees' competences, facilities, core services and complementary services.

Despite the existence of the aforementioned studies, it is noted that there is still no consensus about the most adequate scale and the most important factors and attributes to be used to assess service quality in fitness centers since the several studies consider different and variate attributes. Further, it is also noted that the existing studies are mainly focused in the identification of the factors that most influence on service quality and customer satisfaction in fitness centers.

3. Methodology

3.1. Questionnaire and variables

After conducting a systematic literature review on the quality of services of fitness centers, a 23-item questionnaire was developed to measure the importance degree of the attributes regarding the quality of fitness centers. To ensure the content validity

of the questionnaire, the recommendations and suggestions of two service quality management professors and four managers of fitness centers were considered. Based on the results of the content adequacy assessment, minor adjustments were made to the items (attributes) of the questionnaire that was divided into the following two blocks:

- Block I (respondent identification): This block contains demographic variables to identify characteristics of the respondents (gender, age, marital status and schooling), patterns of use (time that practices physical activities in fitness center and frequency) and motivational issues (aesthetics, quality of life, health, physical wellbeing and relaxation).
- Block II (evaluation process): In this block the respondents (customers of the fitness centers) establish the degree of importance of each criterion for the services in fitness centers. The responses varied from 0 (unimportant) to 10 (very important). The respondent could use the option '(N/A) Not Applicable' if the item was not relevant to the service quality of fitness centers or if the item was not clear. Table 2 shows the 23 attributes (items) that compose the questionnaire.

Table 2. The attributes (items) of the questionnaire.

Attributes
I ₁ Cleanliness of the fitness center ^a ; I ₂ Availability of equipment cleaning products; I ₃ Temperature control; I ₄ Physical appearance; I ₅ Comfort of facilities; I ₆ Location; I ₇ Parking lot; I ₈ Waiting time for the beginning of service; I ₉ Competence of instructors ^b ; I ₁₀ Performance of instructors when facing problems and complaints; I ₁₁ Accuracy of information provided by instructors; I ₁₂ Number of instructors available; I ₁₃ Politeness of the instructors; I ₁₄ Instructors near the equipment to clarify doubts; I ₁₅ Number of the equipment available; I ₁₆ Functionality of the equipment; I ₁₇ Location of the equipment; I ₁₈ Ease of use of the equipment; I ₁₉ Preservation of equipment; I ₂₀ Variety of equipment; I ₂₁ Maintenance of the equipment; I ₂₂ Value of service; I ₂₃ Price.
^a The scientific literature reveals that these attributes are also used to assess the service quality and customer satisfaction in health clubs, sport centers and fitness clubs.
^b Instructors sometimes can also be denominated trainers, technical staff, and physical education teacher.

The cleanliness of the fitness centers is an attribute present in many studies (Bodet, 2006; Chelladurai et al., 1987; Howat & Assaker, 2016; Kim & Kim, 1995; Lam et al., 2005; Macintosh & Doherty, 2007; Nuviala et al., 2013; Triadó et al., 1999; Tsitskari, Antoniadis, & Costa, 2014; Yildiz, 2011), and the main concern of the respondents is precisely the cleaning of the environment and the hygiene of fitness equipment. In this sense, this attribute is relevant because in peak times it becomes practically impossible for the cleaning team of the fitness centers to carry out their work perfectly. However, if the fitness center provides cleaning products, customers can sanitize the equipment (e.g. benches, seats and mats) before (and perhaps, after) using it, contributing to increase satisfaction. Thus, the availability of equipment cleaning products is an attribute that is suggested.

The temperature control is present in several scales, in the context that the thermal pleasantness of the environment affects the performance of the customers (Bodet, 2006; Kim & Kim, 1995; Lam et al., 2005; Yildiz, 2011). The physical appearance attribute goes from the conservation of the fitness centers (Howat & Assaker, 2016) to the attractiveness of internal and external architecture (Soita, 2012), as well as translating the professional appearance of the environment (Yildiz, 2011). In CECASDEP scale (Morales & Gálvez, 2011) the space and comfort of the environment is also highlighted.

The location of the fitness centers has also been considered in scientific surveys (Bodet, 2006; Gonçalves, Biscaia, Correia, & Diniz, 2014; Lam et al., 2005; Macintosh & Doherty, 2007; Morales & Gálvez, 2011) and it is possible that this attribute influences customers' choice. One reason for this is the high competition in the sector. Thus, by addressing this type of questioning, managers of the fitness centers can map out the information of their customers (where they live, where they study and/or work) and then promote marketing actions. The parking

lot attribute concerns the availability of good and safe parking area (Albayrak & Caber, 2014; Howat & Assaker, 2016; Macintosh & Doherty, 2007).

Chelladurai et al. (1987) investigated the presence of queues in these establishments. This attribute is also observed in (Macintosh & Doherty, 2007) in the item ease of check-in. Macintosh & Doherty (2007) also consider this issue when defined the item ease of check-in. Other authors question the timing of classes, which, once poorly dimensioned, may lead to waiting time (Bodet, 2006; Howat & Assaker, 2016; Soita, 2012). Desiring to contribute to this investigation, our study suggests the attribute "Waiting time for the beginning of service".

According to Triadó, Aparicio, & Rimbau (1999), the human resources of the fitness center have a real influence on customer's satisfaction. Fitness instructors are the main employee group within the sector and, arguably, have the most direct interaction with the customer in the provision of the service, so they are required to give guidance on the correct use of facilities and design exercise programmes (Lloyd, 2005). This professional should be courteous, polite and willing to serve the customers. Thus, it is expected that it is always close to equipment and accessible to customers. Bodet (2006) emphasizes the importance of the number of professionals, since the customers must be assisted during the training in order to avoid injuries. In addition, the instructor should guide the client clearly, providing information about the exercises, equipment, accessories and the functioning of the gym with accuracy. Therefore, six attributes associated with instructors' performance are suggested in the study.

The fitness center must have enough equipment to serve its customers, avoiding the formation of queues close to the equipment (Macintosh & Doherty, 2007; Nuviala et al., 2013). The distribution of equipment in the environment (layout) should be designed in such a way as to

exploit the environment to the maximum, to facilitate the transit of people and to avoid accidents (Gonçalves et al., 2014; Kim & Kim, 1995; Lam et al., 2005).

The variety and modernity of equipment can be differentials of the fitness center, since having several modern equipment will attract a larger audience. (Macintosh & Doherty, 2007; Yildiz, 2011). However, most of the fitness equipment are very expensive and its update is not an easy task for many fitness centers (especially for small and medium-sized fitness centers which are located in low-income and medium-income countries). In this context, the present study proposes attributes related to the ease of use of the equipment, as well as its functionality, preservation and maintenance.

As any other branch of service, fitness centers customers are also price conscious and this concern is not new, as Kim & Kim (1995) already examined the price. However, according to Howat & Assaker (2016), customers perceive the quality levels of the process, so they can also perceive the value of the service, that is, they know how to identify the relationship between what is offered and the amount charged. As discussed in previous studies (Bodet, 2006; Howat & Assaker, 2016; Macintosh & Doherty, 2007; Triadó et al., 1999), the financial context is incorporated in this study with the attributes "Value of Service" and "Price".

3.2. Sample and methods

This exploratory study was conducted in collaboration with 368 customers of four fitness centers of a 500,000 inhabitants' city of the countryside of Brazil. Convenience sampling was used to collect data and judgements from the customers.

A balanced number of male (44%) and female (56%) respondents was observed in the sample, whose predominant age range is between 25 and 34 years old. Respondents are predominantly single (54.62%) and

approximately 41% of them declared higher education, even if they are attending or have already completed it.

Component Factor analysis was used to summarise the information contained in the original items into a smaller set of composite dimensions (factors) with a minimum loss of information. Cronbach's alpha coefficient (Cronbach, 1951) was used to measure the questionnaire reliability. An analysis with alpha coefficient and item-total correlations was also conducted to identify items that could be dropped to increase the questionnaire reliability. Item-total correlations are correlations between an item and the overall dimension score to which that item belongs to but do not include the one item being correlated (Hayes, 1998). According to such analysis, if an item is not highly correlated with a composite of the remaining items, it may be excluded from the questionnaire.

Quartile Analysis was used to identify which items were most critical. Quartile analysis is a ranking measure proposed by Freitas, Manhães, and Cozendey (2006) to classify items by four priority levels (critical priority, high priority, moderate priority, and low priority) based on the importance averages of the items. The quartiles are considered to be border values. The importance averages are used to calculate three quartiles by which the items are assigned into the previously mentioned priority levels. The items with importance averages greater than the third quartile are nominated as critical priority, and they should therefore be analysed first by the managers to achieve possible improvements; items with importance averages lower than the first quartile are nominated as low priority, because the averages are the lowest for these items.

4. Data analysis and results

Some testing assumptions were preliminary conducted to verify the feasibility of factor analysis. Regarding the sample size, there is

a ratio of sixteen observations for each variable. According to Hair, Black, Babin, Anderson, & Tatham (2006) this ratio is appropriate for the calculation of correlations among variables. The Bartlett sphericity test ($\chi^2 = 4660.697$; $p < .05$) and the Kaiser-Meyer-Olkin statistic ($KMO = 0.910$) reports that the matrix of correlations for the exploratory factor analysis seems to be significant and appropriate describe the data structure.

The factor solution was derived from the component analysis with Varimax rotation of 23 variables and the four resulting factors

explained approximately 59% of the total variance. The denomination of the factors is related to the content of the questionnaire items assigned to each factor (dimension). Consequently, the first factor, 'Workout facilities & price', explains the greatest quantity of variance (19.15%). For interpretation purposes, factor loadings $\pm .40$ or above were considered. Table 3 shows the extracted factors/dimensions (D₁, D₂, D₃, D₄), the variables (items), the factor loadings and the percentages of explained variance by each factor.

Table 3. Factor solution.

Factor interpretation (% variance explained)	Loading	Variables (items) included in the factor
D ₁ Workout facilities & price (19.15%)	0.837	V ₁ Maintenance of equipment
	0.797	V ₂ Preservation of equipment
	0.765	V ₃ Functionality of the equipment
	0.740	V ₄ Variety of equipment
	0.631	V ₅ Number of the equipment available
	0.595	V ₆ Value of service
	0.522	V ₇ Price
D ₂ Staff (17.11%)	0.791	V ₈ Politeness of the instructors
	0.777	V ₉ Accuracy of information provided by instructors
	0.739	V ₁₀ Performance of instructors when facing problems and complaints
	0.720	V ₁₁ Competence of instructors
	0.617	V ₁₂ Number of instructors available
	0.378	V ₁₃ Parking lot
	0.265	V ₁₄ Location
D ₃ Layout & facilities (12.58%)	0.743	V ₁₅ Location of equipment
	0.641	V ₁₆ Ease of use of the equipment
	0.588	V ₁₇ Waiting time for the beginning of service
	0.578	V ₁₈ Availability of equipment cleaning products
	0.561	V ₁₉ Instructors near the equipment to clarify doubts
D ₄ Ambient Conditions & Cleanliness (10.14%)	0.734	V ₂₀ Temperature control
	0.574	V ₂₁ Comfort of facilities
	0.552	V ₂₂ Cleanliness
	0.479	V ₂₃ Physical appearance of the fitness center

Thus, it is assumed that D₁ is the most important factor. More specifically, customer's inclination to pay certain monthly payment may be greatly influenced by the way that he/she perceives the items

associated with equipment at the fitness centers. Staff is the second most important factor and it essentially represents the instructors' attitudes and performance. The other dimension that it is worth highlighting

is D₃. Items linked to this factor refer to the idea of the customer who is already in the fitness centers not having to wait for performing the physical activities. Finally, the less important factor refers to the ambient conditions and the overall cleanliness condition of the fitness center.

Table 4 shows the Average Degree of Importance (\overline{DI}_i) on each variable i ($i = 1, 2, \dots, 23$). The Cronbach's α values per factor/Dimension (αD), the α value if an item i is excluded from the dimension (αIe) it belongs, and the Item-Total Correlations (ITC) are also presented.

Table 4. Average importance, Cronbach's alpha and item-total correlations.

Dimensions	Items	(\overline{DI}_i)	αD	αIe	ITC
D ₁ Workout facilities & price	V ₁	9.64	0.891	0.862	0.799
	V ₂	9.57		0.865	0.773
	V ₃	9.66		0.870	0.732
	V ₄	9.58		0.875	0.689
	V ₅	9.59		0.880	0.642
	V ₆	9.46		0.880	0.646
	V ₇	9.33		0.893	0.583
D ₂ Staff	V ₈	9.72	0.775	0.737	0.667
	V ₉	9.53		0.719	0.701
	V ₁₀	9.34		0.707	0.713
	V ₁₁	9.49		0.730	0.582
	V ₁₂	9.24		0.724	0.601
	V ₁₃	8.57		0.821	0.347
	V ₁₄	9.41		0.789	0.248
D ₃ Layout & facilities	V ₁₅	9.22	0.831	0.770	0.721
	V ₁₆	9.35		0.782	0.688
	V ₁₇	9.21		0.819	0.547
	V ₁₈	9.27		0.800	0.623
	V ₁₉	9.33		0.811	0.577
D ₄ Ambient conditions & Cleanliness	V ₂₀	9.23	0.685	0.577	0.530
	V ₂₁	9.32		0.555	0.578
	V ₂₂	9.57		0.671	0.396
	V ₂₃	8.80		0.664	0.431

Table 4 shows that the reliability of factor D₂ increases significantly if variables V₁₃ (Parking lot) and V₁₄ (Location) are excluded from the questionnaire. For this reason, the name assigned to D₂ disregards the items relating to Parking (V₁₃) and Location (V₁₄) of the fitness centers. In addition, item-total correlations indicate a lower relationship between these two variables and D₂. In this study, such result may indicate that customers do not wish to make long journeys to go to the fitness centers. Further, customers may predominantly go to fitness center by walking, cycling or motorcycling, requiring

not an exclusive and large parking lot (it also probable that public parking areas are available nearby the fitness centers). Being noticed the intrinsic importance of the location, marketing actions can be promoted to capture customers that are in the surroundings areas of the fitness center (companies and residences). On the other hand, the variable V₇ (Price) if excluded from the D₁ just increases a little the reliability of this factor, so it should not be excluded from the questionnaire and it should remain for the next analysis. All other variables must remain in the questionnaire. Since the lower limit to assure the reliability

of a dimension is $\alpha = 0.60$ (Hair et al., 2006; Malhotra, 2007), the questionnaire is valid and reliable for all dimensions.

Quartile Analysis (Figure 1) confirms that the most critical items are related to the Staff dimension (D₁) and Workout facilities & price (D₂) dimension. Specifically, according to the customers's perceptions, instructors must be polite and the fitness equipment

must be varied and in sufficient quantity, besides being in perfect working order. Therefore, equipment maintenance programs are also important. The high priority items are predominantly related to the instructors' competence and the accuracy of information they provide, the overall cleanliness of the fitness center and the value of service.

Figure 1. Results of the Quartile Analysis

<i>Quartile analysis</i>								
PRIORITY	Critical	Item	V ₈	V ₃	V ₁	V ₅	V ₄	
		Average	9.72	9.66	9.64	9.59	9.58	
		3rd Quartile = 9.57						
	High	Item	V ₂₂	V ₂	V ₉	V ₁₁	V ₆	
		Average	9.57	9.57	9.53	9.49	9.46	
		2nd Quartile = 9.35						
	Moderate	Item	V ₁₆	V ₁₀	V ₇	V ₁₉	V ₂₁	
		Average	9.35	9.34	9.33	9.33	9.32	
		1st Quartile = 9.27						
	Low	Item	V ₁₈	V ₁₂	V ₂₀	V ₁₅	V ₁₇	V ₂₃
		Average	9.27	9.24	9.23	9.22	9.22	8.80

Conversely, the lower priority (less important) items are related to the temperature control, number of instructors available, availability of equipment cleaning products, physical appearance of the fitness center, location of equipment, and waiting time for the beginning of service. Since the average importance degrees are high (all of them were scored over 8.00) for these attributes, the fitness centers should continue the good work at them.

5. Conclusions

All over the world, the growth of the fitness industry and the consequent increasing competition among the organizations have attracted the attention of researchers and practitioners from diverse fields of knowledge, such as Business Administration, Marketing, Service Quality Management and Physical Education. This

paper aimed to evaluate and to identify the most important attributes at fitness centers and an exploratory study was conducted, concerning the perceptions of Brazilian customers. An original set of attributes resulting from a systematic literature review process was also suggested.

5.1. Theoretical contributions

In the last decades, several scientific studies have been conducted to identify the Factors (dimensions) that most influence on service quality and customer's satisfaction in the fitness industry but little attention has been dedicated to the identification of the most relevant attributes (items). Our study aims to fulfill this gap and suggests that the identification of the most important factors (dimensions) and attributes concerning the perceptions of customers of fitness centers is also necessary.

In this study, Cronbach's alpha and item-total correlations indicated that the questionnaire is valid and reliable in the context of exploratory studies. Factorial analysis and Quartile analysis revealed that the most important factors are related to *Workout facilities & Price* (fitness equipment and value of service) and *Staff* (instructors). These results corroborate with the findings of (Triadó et al., 1999) and (Yildiz, 2011) but they are somewhat contradictory to the findings of other studies. (Albayrak & Caber, 2014; Lam et al., 2005) revealed that *Workout facilities* and *Staff* were, respectively, the fifth and the first relevant factor. (Yildiz & Kara, 2012) concluded that Programme dimension was the most important factor for the largest segment of customers. Vieira & Ferreira (2017) revealed that the employees' competences were the most important factor in the strategy of fitness clubs. In this context, the first theoretical contribution of this study concerns to the affirmation that there is no evidence to ensure that the factors that most influence on service quality and customer's satisfaction in the fitness sector are, in fact, the most important factors concerning the perceptions of customers of fitness centers.

Factorial analysis and Quartile analysis also revealed that the most important attributes are related to fitness equipment, the instructors' attitudes and performance, the overall cleanliness of the fitness center and the value of service.

5.2. Managerial implications

Our study provides relevant contributions to managers and practitioners by revealing that all of 23 attributes are important to the customers (the less important attribute was scored 8.80) and they are useful for further evaluations of importance degree. However, the most important attributes in fitness centers as perceived by customers are mainly related to the instructors' performance, the

fitness equipment, the overall cleanliness and the value of service.

More specifically, special attention should be dedicated to the instructors' politeness and competence, and the accuracy of information they provide. The fitness equipment must be varied and in sufficient quantity, avoiding the formation of queues close to the equipment as indicated by Macintosh & Doherty (2007). The equipment should not only be modern, but also be in good conditions and work perfectly. The overall installations of the fitness center should be clean and the relationship between the service received and the monthly fee must be appropriate. This last attribute indicates that customers are always comparing the performance of the fitness center - concerning the attributes - with the value they pay for the service. Consequently, if the quality of the service received is inferior to the quality expected related to the amount paid, customers may become dissatisfied. Further, this result is very instigating since that increasing the service price weakens the perception of service performance, as well as satisfaction, perceived value and future intentions decrease after an increase in the service price (Calabuig, Núñez-Pomar, Prado-Gascó, & Añó, 2014).

Finally, it is believed that the results of this study can contribute to the improvement of the quality of services in fitness centers. In particular, the observation and monitoring of the factors and the attributes associated with them can help the managers of the fitness centers to attract new customers and maintain the current ones.

5.3. Limitations and areas for future research

The study was conducted in fitness centers located in a Brazilian municipality with approximately 500,000 inhabitants, whose urban mobility issues may be different in relation to larger and smaller urban centers. Such issues eventually may have influenced the importance level of the location and

parking lot attributes in this study. The results should be carefully analyzed and interpreted when they are compared with the results of studies conducted in other countries, since cultural aspects and customers' social-demographic characteristics may vary from country to country and from region to region. For example, many of the Brazilian customers of fitness centers do not use locker room and showers after practicing physical activities in fitness centers, preferring to take a shower at home.

Further studies can be directed to the following issues: the use of the set of

attributes of this study to identify the most important attributes in fitness centers located in other countries and regions; investigation of the factors and attributes that most influence on service quality and customer's satisfaction in fitness centers when the set of attributes of this study is considered, and; examination if the most important factors and attributes in fitness centers is influenced by gender.

Acknowledgements: The authors acknowledge the support provided by the Carlos Chagas Filho Research Support Foundation of Rio de Janeiro (FAPERJ) and CAPES.

References:

- Afthinos, Y., Theodorakis, N. D., & Nassis, P. (2005). Customers' expectations of service in Greek fitness centers. *Managing Service Quality: An International Journal*, 15(3), 245-258. <https://doi.org/10.1108/09604520510597809>
- Albayrak, T., & Caber, M. (2014). Symmetric and asymmetric influences of service attributes: The case of fitness clubs. *Managing Leisure*, 19(5), 307-320. <https://doi.org/10.1080/13606719.2014.885711>
- Bodet, G. (2006). Investigating customer satisfaction in a health club context by an application of the Tetraclasse Model. *European Sport Management Quarterly*, 6(2), 149-165. <https://doi.org/10.1080/16184740600954148>
- Breesch, D., Vos, S., & Scheerder, J. (2015). The financial viability of the fitness industry in Belgium. *Sport, Business and Management: An International Journal*, 5(4), 365-385. <https://doi.org/10.1108/SBM-12-2012-0052>
- Busacca, B., & Padula, G. (2005). Understanding the relationship between attribute performance and overall satisfaction. *Marketing Intelligence & Planning*, 23(6), 543-561. <https://doi.org/10.1108/02634500510624110>
- Calabuig, F., Núñez-Pomar, J., Prado-Gascó, V., & Añó, V. (2014). Effect of price increases on future intentions of sport consumers. *Journal of Business Research*, 67(5), 729-733. <https://doi.org/10.1016/j.jbusres.2013.11.035>
- Chang, K., & Chelladurai, P. (2003). System-based quality dimensions in fitness services: Development of the scale of quality. *The Service Industries Journal*, 23(5), 65-83. <https://doi.org/10.1080/02642060308565624>
- Chelladurai, P. (1992). A classification of sport and physical activity services: implications for sport management. *Journal of Sport Management*, 6(1), 38-51.
- Chelladurai, P., Scott, F. L., & Haywood-Farmer, J. (1987). Dimensions of fitness services: Development of a Model. *Journal of Sport Management*, 1(2), 159-172. <https://doi.org/10.1123/jsm.1.2.159>
- Cheng, K. (2013). On applying Six Sigma to improving the relationship quality of fitness and health clubs. *Journal of Service Science*, 6(1), 127-138.

- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334. <https://doi.org/10.1007/BF02310555>
- Cudney, E., Elrod, C. C., & Uppalanchi, A. (2012). Analyzing customer requirements for the American society of engineering management using quality function deployment. *EMJ - Engineering Management Journal*, 24(1), 47-57. <https://doi.org/10.1080/10429247.2012.11431928>
- Fitzsimmons, J. A., & Fitzsimmons, M. J. (2006). *Service Management: Operations, Strategy and Information Technology* (5th ed.). New York, NY: McGraw-Hill/Irwin.
- Freitas, A. L. P., & Costa, H. G. (2012). Development and testing of a multi-criteria approach to the assessment of service quality: An empirical study in Brazil. *International Journal of Management*, 29(2), 633-651.
- Freitas, A. L. P., Manhães, N. R. C., & Cozendey, M. I. (2006). Using SERVQUAL to evaluate the quality of information technology services: an experimental analysis. In *XII International Conference on Industrial Engineering and Operations Management* (pp. 1-8). Fortaleza, CE, Brazil.
- Gonçalves, C., Biscaia, R., Correia, A., & Diniz, A. (2014). An examination of intentions of recommending fitness centers by user members. *Motriz. Revista de Educacao Fisica*, 20(4), 384-391. <https://doi.org/10.1590/S1980-65742014000400004>
- Griffin, A., & Hauser, J. R. (1993). The voice of the customer. *Marketing Science*, 12(1), 1-27.
- Grönroos, C. (1984). A Service Quality Model and its Marketing Implications. *European Journal of Marketing*, 18(4), 36-44. <https://doi.org/10.1108/EUM0000000004784>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). New Jersey: Pearson Prentice Hall.
- Hayes, B. E. (1998). *Measuring Customer Satisfaction: Survey Design, Use, and Statistical Analysis Methods*. (2nd ed.). Milwaukee, WI: American Society for Quality.
- Howat, G., & Assaker, G. (2016). Outcome quality in participant sport and recreation service quality models: Empirical results from public aquatic centres in Australia. *Sport Management Review*, 19(5), 520-535. <https://doi.org/10.1016/j.smr.2016.04.002>
- IHRSA. (2007). *European market report: the size and scope of the health club industry*. (C. M. McNeil, J. M. Ablondi, K. Hollasch, & A. O'Kane, Eds.). Boston, USA.
- Kim, D., & Kim, S. Y. (1995). QUESC: An instrument for assessing the service quality of sport centers in Korea. *Journal of Sport Management*, 9(2), 208-220.
- Kotler, P., & Armstrong, G. (2012). *Principles of marketing* (14th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Lagrosen, S., & Lagrosen, Y. (2007). Exploring service quality in the health and fitness industry. *Managing Service Quality: An International Journal*, 17(1), 41-53. <https://doi.org/10.1108/09604520710720665>
- Lam, E. T. C., Zhang, J. J., & Jensen, B. E. (2005). Service Quality Assessment Scale (SQAS): An instrument for evaluating service quality of health-fitness clubs. *Measurement in Physical Education and Exercise Science*, 9(2), 79-111. https://doi.org/10.1207/s15327841mpee0902_2
- Lloyd, C. (2005). Training standards as a policy option? The regulation of the fitness industry. *Industrial Relations Journal*, 36(5), 367-385. <https://doi.org/10.1111/j.1468-2338.2005.00365.x>

- Macintosh, E., & Doherty, A. (2007). Reframing the service environment in the fitness industry. *Managing Leisure, 12*(4), 273-289. <https://doi.org/10.1080/13606710701546835>
- MacIntosh, E. W., Doherty, A., & Walker, M. (2010). Cross-sectoral variation in organizational culture in the fitness industry. *European Sport Management Quarterly, 10*(4), 445-464. <https://doi.org/10.1080/16184742.2010.502744>
- Malhotra, N. K. (2007). *Marketing Research: An Applied Orientation* (5th ed.). Upper Saddle River, NJ.: Pearson Prentice Hall.
- Martilla, J. A., & James, J. C. (1977). Importance-Performance Analysis. *Journal of Marketing, 41*(1), 77-79. <https://doi.org/10.2307/1250495>
- Morales, V. S., & Gálvez, P. R. (2011). La percepción del usuario en la evaluación de la calidad de los servicios municipales deportivos. *Cuadernos de Psicología Del Deporte, 11*(2), 147-154.
- Moreira, A. C., & Silva, P. M. (2015). The trust-commitment challenge in service quality-loyalty relationships. *International Journal of Health Care Quality Assurance, 28*(3), 253-266. <https://doi.org/10.1108/IJHCQA-02-2014-0017>
- Moxham, C., & Wiseman, F. (2009). Examining the development, delivery and measurement of service quality in the fitness industry: A case study. *Total Quality Management & Business Excellence, 20*(5), 467-482. <https://doi.org/10.1080/14783360902863614>
- Nuviala, A., Grao-Cruces, A., Nuviala, R., & Fernández-Ozcorta, E. (2015). Asociación entre la calidad del servicio deportivo, valor y satisfacción de usuarios en España. *Universitas Psychologica, 14*(2), 15-24. <https://doi.org/10.11144/Javeriana.upsy14-2.abss>
- Nuviala, A., Grao-Cruces, A., Tamayo, J. A., Nuviala, R., Álvarez, J., & Fernández-Martínez, A. (2013). Design and analysis of the sport services assessment questionnaire (EPOD2). *Revista Internacional de Medicina y Ciencias de La Actividad Física y El Deporte, 13*(51), 419-436.
- Papadimitriou, D., & Karteroliotis, K. (2000). The service quality expectations in private sport and fitness centers: A reexamination of the factor structure. *Sport Marketing Quarterly, 9*(3), 157-164.
- 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.
- Sasser, W. E., & Reichheld, F. F. (1990). Zero defections : Quality comes to services. *Harvard Business Review, 68*(5), 105-111.
- Sheehan, N. T., & Bruni-Bossio, V. (2015). Strategic value curve analysis: Diagnosing and improving customer value propositions. *Business Horizons, 58*(3), 317-324. <https://doi.org/10.1016/j.bushor.2015.01.005>
- Soita, P. (2012). Customers' perception about service quality in commercial health and fitness clubs in Uganda. *Journal of Education and Practice, 3*(4), 53-64. Retrieved from <http://www.iiste.org/Journals/index.php/JEP/article/view/1320>
- Triadó, X. M., Aparicio, P., & Rimbau, E. (1999). Identification of factors of customer satisfaction in municipal sport centres in Barcelona. Some suggestions for satisfaction improvement. *The Cyber-Journal of Sport Marketing, 3*, 1-12.
- Tsitskari, E., Antoniadis, C. H., & Costa, G. (2014). Investigating the relationship among service quality, customer satisfaction and psychological commitment in Cyprian fitness centres. *Journal of Physical Education and Sport, 14*(4), 514-520. <https://doi.org/10.7752/jpes.2014.04079>

- Vieira, E. R. M., & Ferreira, J. J. (2017). Strategic framework of fitness clubs based on quality dimensions: the blue ocean strategy approach. *Total Quality Management and Business Excellence*, 3363(March), 1-20. <https://doi.org/10.1080/14783363.2017.1290523>
- Yildiz, S. M. (2011). An importance-performance analysis of fitness centre service quality: Empirical results from fitness centres in Turkey. *African Journal of Business Management*, 5(16), 7031-7041. <https://doi.org/10.5897/AJBM11.674>
- Yildiz, S. M., & Kara, A. (2012). A re-examination and extension of measuring perceived service quality in Physical Activity and Sports Centres (PSC): QSport-14 scale. *International Journal of Sports Marketing and Sponsorship*, 13(3), 190-208. <https://doi.org/10.1108/IJSMS-13-03-2012-B004>

André Luís Policani**Freitas**

Universidade Estadual do
Norte Fluminense Darcy
Ribeiro (UENF),
Campos dos Goytacazes, RJ,
Brasil

andrepolicani@yahoo.com;

policani@uenf.br

Thays Silva Lacerda

Universidade Estadual do
Norte Fluminense Darcy
Ribeiro (UENF),
Campos dos Goytacazes, RJ,
Brasil
lacerdathays@hotmail.com
