

# **SERVICE QUALITY, CUSTOMER SATISFACTION AND LOYALTY**

## **IN 4- AND 5-STAR HOTELS**

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**ABSTRACT:** Service quality, customer satisfaction and loyalty in the hotel business are key components for establishing a long-term organizational relationship. However, the evaluation of customer satisfaction in these organizations is not a current managerial practice. The purposes of this study were to create a hotel service quality and customer satisfaction measurement scale validated for 4- and 5-star hotels; to identify the determinants of customer satisfaction and loyalty; and to model the relationship between service quality, satisfaction and loyalty. The proposed scale evaluates service quality and customer satisfaction through five key dimensions: "Staff Service", "Reception Service", "Bar & Restaurant Service", "Room Quality" and "Safety". A structural model was built to test the relations between "Service Quality" components, "Customer Satisfaction" and "Loyalty". Results demonstrated that the effect of "Service quality" on "Loyalty" was mediated by "Customer satisfaction" which was a strong determinant of "Loyalty". Our new structural model shows that service quality is a strong determinant of hotel guests' loyalty mediated by the guests' satisfaction. However, service quality alone is not enough to ensure the customer's loyalty. To be loyal, the guest must also be satisfied with the service delivered. Keywords: Hotel Service Quality, Customer Satisfaction, Loyalty, Structural Equation Modeling.

**RESIMEN:** La calidad del servicio, la satisfacción del cliente y la lealtad en el sector hotelero son componentes clave para establecer una relación del cliente con la organización a largo plazo. Sin embargo, la evaluación de la satisfacción del cliente, en estas organizaciones, no es una práctica de gestión actual. Los objetivos de este estudio han sido crear una escala de calidad de servicio hotelero y de satisfacción del cliente, validado para hoteles de 4 y 5 estrellas; identificar los determinantes de la satisfacción y lealtad del cliente; y modelar la relación entre la calidad del servicio, la satisfacción y la lealtad. La escala propuesta evalúa con alta sensibilidad psicométrica, validez y fiabilidad la calidad del servicio y la satisfacción del cliente a través de cinco dimensiones clave: "Personal", "Servicio de recepción", "Servicio de Bar & Restaurant", "Calidad de la habitación" y "seguridad". Un modelo estructural fue construido para probar las relaciones entre "Calidad de servicio" la "Satisfacción del Cliente" y "lealtad". El efecto de la "Calidad de servicio" en la "lealtad" fue mediada por "satisfacción del cliente", que fue un fuerte determinante de la "lealtad". Palabras clave: calidad del servicio hotelero, satisfacción del consumidor, lealtad, modelo de ecuaciones estructurales.

**RESUMO:** Qualidade de serviço, satisfação e fidelização dos clientes são componentes fundamentais, no ramo da hotelaria, para estabelecer uma relação de longo prazo entre os clien-

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tes e a organização. No entanto, a avaliação de satisfação do cliente, nestas organizações, não é uma prática de gestão corrente. Este estudo teve como objetivos criar uma escala qualidade de serviço e satisfação do cliente do setor hoteleiro, validada para hotéis 4 e 5 estrelas; identificar determinantes da satisfação e da fidelização dos clientes; e modelar a relação entre a qualidade de serviço hoteleiro, a satisfação e lealdade do cliente. A escala proposta avalia a qualidade do serviço e satisfação do cliente através de cinco dimensões fundamentais "Pessoal de Serviço", "Receção", "Bar & Restaurante", "Qualidade do Quarto" e "Segurança", com elevada sensibilidade psicométrica, validade e confiabilidade. Um modelo estrutural foi construído para testar as relações entre as dimensões da "Qualidade de Serviço", a "Satisfação do Cliente" e "Lealdade". O efeito da "Qualidade do Serviço" na "Lealdade" foi mediado pela "Satisfação do cliente", que se apresentou como um forte determinante de "Lealdade". **Palavras-chave:** qualidade do serviço hoteleiro, satisfação do consumidor, lealdade, modelo de equações estruturais.

## INTRODUCTION

Hotel managers used to believe that the best marketing strategy was to have as many new customers as possible (Shoemaker & Lewis, 1999). They recognized the importance of satisfying the guests, but the main goal was to continue finding new customers (the marketing conquest). Nowadays, this marketing strategy is not enough for a successful business. It is more important to promote customers' satisfaction and retention and to guarantee customer loyalty (Shoemaker & Lewis, 1999). Customer satisfaction is a way of ensuring the financial stability of the organization in the long term. Knowing how satisfied customers are has two main objectives: (i) to ensure business continuity (repeated purchase and loyalty), and (ii) to assess the customer reaction when the quality of service changes (AbuKhalifeh & Som, 2012; Ladhari, 2009; Shoemaker & Lewis, 1999).

Some recent statistics demonstrate the benefits of customer satisfaction (Davis, 2003; Krynicki, 2003): (i) a satisfied customer communicates his satisfaction to 9-10 people, while a dissatisfied customer reports his dissatisfaction to 15-20 people; (ii) for every 1% increase in customer satisfaction, there is an average increase of 2.4% return on investment; (iii) the cost of recruiting a new customer is 5-10 times greater than the cost of keeping a satisfied customer; and (iv) if the Quality of Service perception is particularly poor, 91% of retail customers will not return. The message here is clear: *Satisfied customers improve business and dissatisfied customers impair business*. In the hotel industry, it has been recognized that a service quality that satisfies customers is determinant to encourage them to revisit and to earn their loyalty (Carman,

1990; Zeithaml & Bitner, 2003) and satisfaction (AbuKhalifeh & Som, 2012; Christie, 2002; Hersh, 2010; Ladhari, 2009; Ramanathan & Ramanathan, 2011). Thus, one of the biggest contemporary challenges for managers, and particularly for hotel managers, is providing and maintaining customer satisfaction (Hersh, 2010; Ladhari, 2009; Su, 2004; Yang, 2004).

Service quality and customer satisfaction have increasingly been identified as key factors in the battle for competitive differentiation to gain customer retention and customer loyalty (Hersh, 2010; Kadamully & Suhartanto, 2000; Su, 2004). Although this is important in all areas of the tourism and lodging industry, the fulfillment of customers' expectations for upscale luxury hotel services are essential to keep the customers satisfied and returning (Mohsin & Lockyer, 2010; Oh, 1999). However, measurement of client satisfaction in upscale hotels has not been targeted specifically by marketing, consumer's psychology scales and measuring instruments. Scales developed for other tertiary services, like the SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988), have been applied to the hotel industry. Nevertheless, the validity of the data gathered with these scales has been criticized because the scales' dimensionality is not universal and depends on the type of service examined (Ladhari, 2009; Markovic & Raspor, 2010). Furthermore, service quality in the hotel industry is intangible, as opposed to the tangibility of product quality (AbuKhalifeh & Som, 2012; Carman, 1990), making it difficult to apply these scales, which were developed for evaluating the quality of tangible products, to the hotel business. Additionally, Cronin and Taylor (1992) criticized the validity of the SERVQUAL model due to contradictory empirical evidence. These authors contend that marketers need to consider new variables such as customer satisfaction and loyalty to promote retention and customers' return. Several other studies have reported that the SERVQUAL scale is not universal because the dimensionality of service quality depends on the type of service examined (AbuKhalifeh & Som, 2012; Ladhari, 2009). Based on these and other criticisms regarding the use of a general product and service quality scales

when applied to the hotel industry, efforts have been made to develop industry-specific scales, namely the HOLSERV (Mei, Dean, & White, 1999), the LODGSERV (Knutson, Stevens, Wullaert, Patton, & Yokoyama, 1990) and the HOTELQUAL (Díez, 1999), LQI (Getty & Getty, 2003; Ladhari, 2012). These scales identify the perceived hotel's service quality as being composed by 3 to 5 factors, inspired by SERVQUAL.

It is now well established that, in the hotel industry, customer satisfaction is largely “hooked” upon quality of service, and that to be successful in this industry it is not sufficient to attract new customers, but it is also fundamental to retain existing customers, by implementing effective policies of customer satisfaction and loyalty (Dominici & Guzzo, 2010; Li & Krit, 2012; Maghzi, Abbaspour, Eskandarian, & Hamid, 2011). However, these studies have not been clear regarding the number of factors or dimensions that should be considered when assessing service quality, customer satisfaction and loyalty. Furthermore, little effort has been made to empirically support, by means of appropriate statistical modeling, the relationships amongst the different dimensions of service quality, satisfaction and loyalty. It was not until 2006, that Olorunniwo, Hsu, and Udo (2006) published a structural equation model specific for the lodging (hotel/motel) industry regarding service quality, satisfaction and behavioral intentions. Their findings indicated that while service quality was a significant driver for customer's positive behavioral intentions, its indirect effect, mediated through satisfaction, was overwhelmingly larger than its direct effect. Li and Krit (2012), however, presented a model where service quality has a direct effect on loyalty that is twice as large as its indirect effect mediated by satisfaction. It is clear, from what is presented in the literature, how the direct and indirect effects of quality affect customer's loyalty. Nevertheless, according to Olorunniwo et al. (2006), these studies presented several limitations resulting mainly from the exploratory nature of their research focusing only on general services. Olorunniwo et al. (2006) also proposed that “future research should utilize

the methodology of the present study (*structural equation modeling*) either to confirm the identified service dimensions or to further fine-tune the dimensions in the service factory category". They go on stating, "further empirical research needs to investigate the effect of service typology on the nature of service quality construct and its relationships with customer satisfaction and behavioral intentions" (Olorunniwo et al., 2006).

In this study, we propose a new Hotel Service Quality and Customer Satisfaction measurement scale, dully validated for 4- and 5-star hotels. Thereafter, we identify 5 factors of service quality that are determinant for customer satisfaction and repeated purchase intention. Finally, we propose and test a structural model describing the relationships between the quality of service factors, satisfaction and customer loyalty.

## CONCEPTUAL BACKGROUND

### *Customer Satisfaction*

Customer satisfaction has been the subject of many researches, and several definitions can be found. However, two of the earliest deserve special attention (Bou-Llusar, Camison-Zornova, & Escrig-Tena, 2001; Millán & Esteban, 2004; Vilares & Coelho, 2005): Satisfaction is a specific transaction seen as a post-choice evaluative judgment on a purchase transaction; and/or Satisfaction is a cumulative process representing an overall assessment based on an overall experience of buying and consuming products over time. One advantage of the last definition is that it has a better prediction capacity of economic performance, because clients make their purchase decisions based on several transactions, and not on a unique and particular transaction. All Customer satisfaction definitions share some fundamental components: i) the existence of one objective, or need, that the costumer wishes to reach; ii) the satisfaction of this objective, or need, is judged in comparison with a standard reference. The satisfaction evaluation process implies the intervention of at least two stimuli: a result and a reference or standard comparison (Millán & Esteban, 2004; Vilares & Coelho, 2005).



### *Service Quality*

Quality of Service, or simply Service Quality, is a multi-dimensional construct difficult to define and measure, and it is debatable what constitutes service quality and, more specifically, how it applies to the hotel industry (Crick & Spencer, 2011). In the service industry, quality is more difficult to define and understand given three of its specific characteristics: intangibility (most services cannot be counted, measured, inventoried or tested before the sale); heterogeneity (particularly services with a high labor content are usually heterogeneous; the performances may change from employee to employee, and from day to day); inseparability of production and consumption (in services, quality evaluation takes place during a service delivery, usually in an interaction with a customer and the service employee) (Crick & Spencer, 2011; Parasuraman, Zeithaml, & Berry, 1985).

Parasuraman et al. (1988) defined Quality of Service as a global judgment or attitude, relating to the superiority of the service. Others, for example Asubonteng, McCleary, and Swan (1996), defined Service Quality as a difference between customers' expectations about a service performance, before utilization or consumption, and their perceptions of performance of the companies providing that same service. Mittal and Lassar (1998) state that "service quality is generally interpreted by customers to refer to the way they are treated by the business firm". Nowadays, in the competitive and dynamic hotel industry, the guest dictates the pace and type of service, and a satisfactory service is the "minimum" expectation of guests (Crick & Spencer, 2011).

### *Loyalty*

Loyalty can be defined as the relationship between a customer and a product or service supplier, based on confidence and commitment (Bowen & Shoemaker, 1998; Ramanathan & Ramanathan, 2011). A loyal customer creates a relationship with the brand or organization similar to friendship (Hawkins, 2003). When there is loyalty, the customer feels that a given supplier of products or

services better satisfies his needs than the competition, which is practically excluded from the decision-making process. The customer buys almost exclusively from that supplier, referring to it as "his restaurant" (Jani & Han, 2011) or "his hotel" (Shoemaker & Lewis, 1999).

The development of customer loyalty has become, in recent years, a key factor in the marketing strategy. Despite this, a clear definition of loyalty and the development of assessment techniques are still very limited (R. McMullan, 2005). Most studies suggest the existence of two loyalty dimensions - emotional (attitudinal) and behavioral. However, these studies did not adequately explore the complex interrelations between these two dimensions, nor the dynamics of the process that generates and maintains the customer's loyalty (Kadampully & Suhartanto, 2000; R. McMullan, 2005; R. McMullan & Gilmore, 2003; Ramanathan & Ramanathan, 2011).

It is, however, important to distinguish between loyalty and repurchase. A customer can continue to purchase a given product or service, without any emotional connection to the supplier (spurious loyalty). The customer does it as a matter of habit, price, proximity to the supplier or even the existence of a single supplier (Hawkins, 2003; Vilarés & Coelho, 2005).

### *Research model*

The relation between the constructs Service Quality, Customer Satisfaction and Loyalty is not clear. Some authors state that Customer Satisfaction is prior to Service Quality (Parasuraman et al., 1988; Taylor & Baker, 1994), while others state the opposite (Bou-Llusar et al., 2001; Cronin & Taylor, 1992; H. Lee, Lee, & Yoo, 2000; Olorunniwo et al., 2006), or even defend that there is no causal relation between the two constructs (Taylor & Baker, 1994). Many authors are consensual about the influence of these two constructs (Service Quality and Customer Satisfaction) on Loyalty; however the impact of these constructs on loyalty is still unclear. Some authors defend that Service Quality has mainly a

direct influence on Loyalty (Li & Krit, 2012; Ramanathan & Ramanathan, 2011), while others suggest that Service Quality has an indirect influence on Loyalty through Customer Satisfaction (Olorunniwo et al., 2006). In both models, Customer Satisfaction acts as a mediator between Service Quality and Loyalty (Bou-Llusar et al., 2001; H. Lee et al., 2000; Li & Krit, 2012; Olorunniwo et al., 2006; Ramanathan & Ramanathan, 2011) but it is not clear how strong this mediation effect is for different service industries (Oh & Jeong, 2010).

Assuming that service quality and customer satisfaction are distinct constructs, the question that arises is how these two constructs are related. Parasuraman et al. (1988) argued that incidents of satisfaction over time result in perceptions of service quality, *i.e.* satisfaction is an antecedent of service quality (Crick & Spencer, 2011; Ramanathan & Ramanathan, 2011). In contrast to this view, studies by other authors, such as Cronin and Taylor (1992) and H. Lee et al. (2000), provided empirical evidence that supports the hypothesis that the causal link is from the service quality to customer satisfaction (Li & Krit, 2012; Olorunniwo et al., 2006). The studies by Olorunniwo et al. (2006) and Li and Krit (2012) suggest that the causal relation between these two constructs is mediated by the consumer's orientation. If the consumer is cognitively oriented, he perceives this relation as service quality leading to satisfaction. If the consumer is emotionally driven, he perceives this relation in the opposite direction with satisfaction, leading to service quality. Assuming that customers can only evaluate a product or service after its use and interpretation (perception of its value), it is defensible that perceived service quality is prior to satisfaction (H. Lee et al., 2000).

Despite the controversy regarding the type of causal relation between service quality and satisfaction, many authors agree that both have influence on the repurchase behavior (Bou-Llusar et al., 2001; Jani & Han, 2011; Olorunniwo et al., 2006) and brand image (Li & Krit, 2012) and thus on customer loyalty. Service quality may have a direct effect on purchase intentions and, con-



sequently, on loyalty (Bou-Llusar et al., 2001; Olorunniwo et al., 2006). That is, if the customer has a positive perception about the quality of a particular service, the purchasing intentions increase and the relationship with the organization is strengthened (Jani & Han, 2011; Kouthouris & Alexandris, 2005; Ramanathan & Ramanathan, 2011). The opposite is observed when the customer perceives a negative quality of service.

Other authors argue that service quality indirectly influences purchase intentions. Service quality will influence the satisfaction and this, in turn, will influence the purchase intentions and loyalty. Thus, satisfaction can be considered a mediator variable between service quality and loyalty (Bou-Llusar et al., 2001; Olorunniwo et al., 2006).

Customer satisfaction is necessary but not sufficient to obtain loyal customers. In other words, we may have satisfaction without loyalty, but it is difficult to have loyalty without satisfaction. However, the relations between these two variables are unclear. Ruyter and Bloemer (1998) have stated that a positive disconfirmation regarding a particular service encourages greater consumption of this service; which means satisfaction and loyalty are positively associated. However, the direct relation between consumer evaluations of a particular service and loyalty remain somewhat equivocal. Ruyter and Bloemer (1998) state that the relation between satisfaction and loyalty is a non-linear one. When satisfaction increases above a specific critical level, loyalty increases rapidly; yet loyalty remains unchanged in a range of relatively high levels of satisfaction, below that critical level.

In this paper, we proposed and tested a research model drawn from the literature and the considerations described above. First, we operationalize the Service Quality as a second-order construct and its key first-order dimensions: Staff performance, Reception functioning, Bar & Restaurant, Hotel Security and Room Quality. Thereafter, we propose causal relationships between the constructs Service Quality, Satisfaction and Loyalty. Service Quality has a causal impact both on Customers' Satisfaction and on Loyalty.

In this model, Satisfaction is a mediator of Service Quality. We hypothesize that Service Quality has a positive and significant effect on Satisfaction (H1). In turn, Satisfaction has a positive effect on Customers' Loyalty (H2). We also predicted that Service Quality has a direct and positive impact on Loyalty (H3). However, in the presence of the indirect effect of Service Quality on Loyalty, mediated by Satisfaction, the direct effect is greatly reduced. Our final hypothesis is that Satisfaction is a strong mediator of Service Quality in the prediction of customer Loyalty (H4).

## MATERIAL AND METHODS

### *Scale*

We elaborated a questionnaire to measure service quality, customer satisfaction and loyalty, based on the literature of service quality, customer satisfaction and loyalty in the hotel industry (Alexandris, Dimitriadis, & Markata, 2002; Bowen & Shoemaker, 1998; Choi & Chu, 2001; Dubé & Renaghan, 1999; Ekinci, Prokopaki, & Cobanoglu, 2003; Getty & Getty, 2003; Juwaheer & Ross, 2003; Kadampully & Suhartanto, 2000; Kim & Cha, 2002; Olorunniwo et al., 2006; Poon & Low, 2005; Schall, 2003; Tsaur, Chiu, & Huang, 2002), as well as on exploratory interviews with 16 hotel managers and marketing directors, from two 4-star and 5-star hotel chains, who agreed to voluntarily participate in this study. Two groups of hotel managers/marketing directors, from each of the two hotel chains, were informally gathered in two 2-hour meetings at one hotel from each chain located in Lisbon, Portugal. After the project's objectives were presented, focus group discussions were set over the themes: i) "how to improve service quality", ii) "how to improve customer satisfaction" and iii) "customer return to the hotels and customer loyalty".

Following our literature review on previous research about hotel services and customer relationship management (see above), as well as suggestions given by the hotel managers and marketers, we developed 37 items to address every dimension deemed important in the focus group discussions. Twenty-seven items

were used to assess quality of service and seven items were used for satisfaction and loyalty (see table 1 for the items' contents). A pre-test was conducted using items gathered from the literature review and questions identified by the hotel managers/marketing directors as important for the study. In order to ensure its adequacy, the pre-test questionnaire was subjected to a random sample of 40 clients from both hotel chains by the principal researcher. In its test version, the scale consisted of 32 items (27 items assessed quality service, 3 items assessed satisfaction and 2 items assessed loyalty), and a set of sociodemographic items. These psychometric items are expressed on a numerical scale from 1 to 10, anchored at both ends with the statement "1- I completely disagree/Very dissatisfied/Unlikely" and "10 – I agree completely/ Very satisfied/ Very likely", including the N/A option (not applicable).

#### *Sampling and data collection*

Data was collected from the national and international customers of two national hotel chains (16 hotels) who agreed to collaborate in this study. In each participating hotel, 30 to 40 questionnaires were gathered. The customers' collaboration was requested at the check-out moment. The questionnaire was provided by the reception staff who adequately informed the customers about the study's purposes and its importance for the improvement of the hotel's services. For the Portuguese, customers, the questionnaire was in Portuguese while for the international customers, an equivalent English version of the questionnaire (obtained from a professional translation service and dully validated for content by the researchers) was used. The respondents did not raise any serious concerns regarding the questions and/or its contents.

#### *Sample and data*

A total of 529 Portuguese and international customers, using the services of sixteen 4- and 5-star Portuguese hotels, participated in this study. Only 512 questionnaires were completely and

correctly filled in. 57% of the participants were men, with a mean age of 42 (SD=13.3 years); 53% were Portuguese; 73% stayed at the hotel for their holidays; 64% of the participants had a college degree; 39% reported a total annual income between 25,000 and 50,000 euros, and 15% of the participants reported having a total annual income over 75,000 euros.

## *METHOD*

The data distribution for each item in the questionnaire was evaluated using Skewness ( $Sk$ ) and Kurtosis ( $Ku$ ) measures. It was considered that absolute values of  $Sk$  greater than 3 and of  $Ku$  greater than 10 were indicators of sensitivity problems and significant deviations from normality (Kline, 1998). Thus, these items were eliminated from subsequent analysis (Maroco, 2010). To assess the construct validity in its factorial, convergent and discriminant facets, the complete database (512 observations without missing values) was randomly subdivided into two sub-samples: the test sample included 203 subjects (40% of the initial sample), and the validation sample was composed of 309 observations (60% of the initial sample).

The scale's factorial validity was evaluated in two steps, as proposed by Maroco (2010). In the first step, an exploratory factor analysis (EFA), with extraction of factors using the principal components method, according to Kaiser's criterion, was performed in the test sample. Factors extracted were subjected to Equamax rotation. In customer satisfaction studies, this non-orthogonal of rotation, as opposed to orthogonal rotations, may prove more useful, producing solutions where the items can share their variances by several factors (Vilares & Coelho, 2005). The exploratory factor structure obtained was confirmed, in the second step, on the validation sample by performing confirmatory factor analysis (CFA), using maximum likelihood estimation. It was considered that the model's fit to the observed items' variance-covariance matrix was good when the Comparative Fit Index (CFI) and Goodness of Fit Index (GFI) indices were above 0.9, the Root Mean Square Error of Approximation (RMSEA) was below 0.05,

the Chi-square over degrees of freedom ( $\chi^2/\text{df}$ ) ranged between 1 and 2, and the Parsimony Ratio (PR) was close to 1 (Maroco, 2010; Mulaik et al., 1989; Schumacker & Lomax, 1996). The indexes ECVI and AIC were also used to compare alternative models, the best being the model that showed the lowest AIC and ECVI (Maroco, 2010). To assess the adjustment and parsimony of the structural sub-model, the indices RNFI and RPR (Mulaik et al., 1989) were used. The model was considered to have a good fit and to be parsimonious when the RNFI and RPR values were close to 1 (Mulaik et al., 1989).

The convergent and discriminant validity were assessed as described by Fornell and Larcker (1981) and Anderson and Gerbing (1988). According to these authors, if the Average Variance Extracted (AVE) by the factors exceeds 0.5, there is evidence of the factors' convergent validity. The discriminant validity of the factors was assessed through the significance of the difference between the model with the correlation between factors equal to 1, and the model with free correlations, as described by Maroco (2010).

The reliability of the EFA's factors was assessed with Cronbach's  $\alpha$  coefficient, as described by Maroco and Garcia-Marques (2006). The factors' reliability was assessed with the Composite Reliability (Fornell & Larcker, 1981; Hair, 1998).

The analysis of sensitivity, reliability and EFA were performed with SPSS (*v. 15*, SPSS Inc., Chicago, IL). The CFA and the structural equation modeling were performed with AMOS (*v. 5*, SPSS Inc., Chicago, IL). Statistical significance of direct and indirect effects was assessed with the bootstrap maximum likelihood procedure, implemented in AMOS. Although there are several different methods to test mediation effects, namely the Baron and Kenny's Sobel test (Hayes, 2009; Preacher & Hayes, 2004; Sarkis, Gonzalez-Torre, & Adenso-Diaz, 2010), the bootstrapping method has become one of the most recommended approaches for probing the significance of mediating indirect effects. This method is to be preferred over the traditional Sobel test for mediating effects, since the Sobel  $Z$  statistic rarely follows a normal



distribution even if the regression coefficients are normally distributed (Hayes, 2009; Preacher & Hayes, 2004).

## RESULTS

### *The Quality of Service (QSS), Satisfaction and Loyalty scales*

The distribution of the initial proposed scale's items were evaluated by the  $Sk$  and  $Ku$ . In general, the items presented a negative  $Sk$  ( $Sk < 0$ ), which is due to the fact that the vast majority of customers had assigned higher scores to the items ( $M \geq 8$ ;  $SD \leq 2$ ;  $Min = 1$ ;  $Max = 10$ ). The  $Ku$  values show leptokurtic distributions for most of the items. However, none of the items present  $Sk$  greater than 3 (in absolute value) or  $Ku$  greater than 10 (in absolute value), indicating that there were no severe deviations from the normal distribution which would prevent the use of statistical analysis such as factor analysis and structural equation modeling (Maroco, 2010).

An exploratory factor analysis, applied to the sub-sample of 203 customers, identified four service quality factors (Table 1): “*Staff and Reception Service*” with an eigenvalue of 14.41, which explains about 53.36% of the data's variability, and a Cronbach's  $\alpha$  of 0.96; “*Bar & Restaurant Service*” with an eigenvalue of 1.82, which accounts for about 6.73% of total variance, and a Cronbach's  $\alpha$  of 0.90; “*Safety*” with an eigenvalue of 1.57, explaining 5.82% of total variability, and a Cronbach's  $\alpha$  of 0.86; and “*Room Quality*” with an eigenvalue of 1.10, which explains 4.10% of total variability, with a Cronbach's  $\alpha$  of 0.85.

Although this four-factor structure is interpretable, in theoretical terms the merging of “Staff” and the “Reception Service” into a single factor may not be the most adequate solution for assessing the quality of service. Although some items belonging to the “Reception Service”, as SR1 and SR2 can be explained by staff characteristics, this is not the case for the remaining items SR3, SR4 and SR5. Thus, it would be interesting to evaluate a factor structure consisting of five factors considering the “Staff” factor separately from the “Reception Service”.

**Table 1 – Factor structure of the Quality of Service Scale (QSS)**

Items	Factor Loadings				Communalities
	Staff & Reception	Bar & Restaurant	Safety	Room Quality	
Q1- The room was comfortable	0.256	0.181	0.461	0.582	0.649
Q2- The room was clean	0.273	0.033	0.390	0.528	0.506
Q3- The room was quiet	-0.020	0.170	0.671	0.203	0.520
Q4- The room had enough and appropriate equipment (TV, Radio, Telephone....)	0.173	0.332	0.263	0.610	0.582
Q5- The room equipment was in good working condition	0.036	0.027	-0.007	0.864	0.749
Q6- The room was beautiful	0.142	0.453	0.370	0.508	0.621
Q7- The room's price to quality ratio was good.	0.177	0.443	0.432	0.515	0.680
EP1- The staff was polite and friendly	0.676	0.267	0.391	0.229	0.734
EP2- The staff had enough knowledge to answer all my problems and questions asked.	0.763	0.265	0.306	0.292	0.830
EP3- The staff provided the services/requests rapidly	0.763	0.353	0.296	0.179	0.827
EP4- The staff provided the services/requests effectively	0.774	0.335	0.284	0.250	0.854
EP5 - The staff was able to anticipate my needs	0.699	0.365	0.171	0.327	0.758
EP6 - The staff had a nice and clean presentation	0.689	0.293	0.371	0.218	0.746
BR1- The breakfast was appropriate	0.166	0.694	0.291	0.132	0.611
BR3 - The quality of the dishes was good	0.211	0.785	0.237	0.162	0.743
BR4 - The restaurant service presented a nice variety of dishes	0.271	0.734	-0.067	0.268	0.688
BR5 - The restaurant and bar service was effective	0.362	0.682	0.262	0.157	0.690
BR6 - The atmosphere of restaurant and bar was cozy	0.251	0.749	0.318	0.110	0.737
BR7 - The price/quality relation of the dishes and drinks was good	0.140	0.744	0.169	0.262	0.670
SR1- Check-in /check-out were effective	0.592	0.253	0.330	0.357	0.651
SR2 - The receptionist attended to my requests and particular needs	0.727	0.291	0.255	0.334	0.789
SR3 - The available information about the hotel was enough	0.709	0.287	0.320	0.200	0.727
SR4 - Other information of interest was available (places to visit, health services,...)	0.554	0.216	0.204	0.334	0.507
SR5 - The reception front desk was pleasant	0.658	0.261	0.387	0.277	0.727
S1 - The hotel had a safe environment	0.381	0.169	0.715	0.249	0.746
S3 - The fire alarm system was appropriate	0.343	0.217	0.785	0.182	0.814
S4 - The access to fire extinguishers was good	0.346	0.205	0.711	0.260	0.735
Eigenvalue	14.410	1.816	1.572	1.098	
% explained variance	53.355	6.728	5.822	4.066	
Cronbach's $\alpha$	0.963	0.903	0.861	0.847	

Note: this factor structure was obtained after extraction of factors using the principal components method with Equamax rotation. Factor loadings greater than 0.5 are presented in bold.

To assert the external validity and reliability of these 5 factors as compared to a 4-factor structure, a confirmatory factor analysis was performed with the other sub-sample of 309 customers. The measurement models with 5 factors ( $\chi^2/df=3.609$ ; GFI=0.777; CFI=0.880; PR=0.895; RMSEA=0.092; AIC=1261.330; ECVI=4.095) showed better fit than the 4 factor model ( $c^2/df=5.001$ ; GFI=0.681; CFI=0.814; PR=0.906; RMSEA=0.114; AIC=1710.464; ECVI=5.530), and therefore, the 4-factor model was discarded. To improve the goodness of fit of the 5-factor model, some items that were loading in more than one factor, according to the estimated model modification indices, as well as items with loadings smaller than 0.5 ( $p<0.001$ ), were removed. Thus, the following items were removed from the scale: SR4, Q2, Q3, EP3, Q6, SR2, BR5, BR4 and EP5. A final quality of service 5-factor model with 18 items from the original 27 items pool, which showed good suitability of fit, was retained for further structural analysis (See Table 2). A number of questions to assess “Customer Satisfaction” and “Customer Loyalty” were also carried out. The measurement model of these two constructs, with 5 items, after removing 2 items with low loadings and/or cross-loaded errors. The Confirmatory factor analysis of these two endogenous factors revealed a good fit ( $\chi^2/df=1.980$ ; GFI=0.990; CFI=0.998; PR=0.400; RMSEA=0.056; AIC=29.921; ECVI=0.097) and high items’ reliability (See Table 2).

The reliability of Quality Service, Satisfaction and Loyalty constructs were assessed through composite reliability (Table 2). The results showed that all factors have a composite reliability greater than 0.7. The reliability of individual items and the AVE for each of these factors are presented in Table 2. As can be seen, all items have individual reliability greater than 0.5. The AVE for all factors is around or above 0.5, indicating the convergent validity of the constructs.

**Table 2 – Individual Reliability of items  $\lambda$ , Composite Reliability (CR), Average Variance Extracted (AVE) and squared correlations ( $R^2$ ) range between the factors from the QSS, Satisfaction and Loyalty after CFA of retained items and their factors.**

Factors	Items		CR	AVE	$R^2$
Staff	<b>EP1-</b> The staff was polite and friendly	0.785	0.877	0.641	0.43-0.44
	<b>EP2-</b> The staff had enough knowledge to answer all my problems and questions asked.	0.771			
	<b>EP4-</b> The staff provided the services/re-quests effectively	0.780			
	<b>EP6 -</b> The staff had a nice and clean presentation	0.702			
Bar & Restaurant	<b>BR1-</b> The breakfast was appropriate	0.540	0.767	0.453	0.41-0.54
	<b>BR3 -</b> The quality of the dishes was good	0.572			
	<b>BR6 -</b> The atmosphere of restaurant and bar was cozy	0.566			
	<b>BR7 -</b> The price/quality relation of the dishes and drinks was good	0.582			
Room	<b>Q1-</b> The room was comfortable	0.612	0.771	0.457	0.43-0.49
	<b>Q4-</b> The room had enough and appropriate equipment	0.520			
	<b>Q5-</b> The room equipment was in good working condition	0.534			
	<b>Q7-</b> The room's price to quality ratio was good.	0.608			
Reception	<b>SR1-</b> Check-in /check-out were effective	0.663	0.788	0.553	0.49-0.55
	<b>SR3 -</b> The available information about the hotel was enough	0.618			
	<b>SR5 -</b> The reception front desk was pleasant	0.743			
Safety	<b>S1 -</b> The hotel had a safe environment	0.719	0.862	0.675	0.43-0.59
	<b>S3 -</b> The fire alarm system was appropriate	0.861			
	<b>S4 -</b> The access to fire extinguishers was good	0.780			
Satisfaction	<b>SAT1 -</b> I'm satisfied with my decision to stay in this hotel	0.913	0.926	0.808	
	<b>SAT2 -</b> My decision to stay in this hotel was wise	0.929			
	<b>SAT4 -</b> My stay in this hotel was very pleasant	0.821			
Loyalty	<b>SAT6 -</b> In the future, will you choose this Hotel again?	0.780	0.881	0.787	
	<b>SAT7 -</b> Would you recommend our Hotel to family and friends?	0.960			

The  $\Delta\chi^2$  (df=1) for the models with free- vs. unitary correlations are highly statistically significant with one degree of freedom ( $p < .001$ ; data not shown). These results, in addition to the

fact that the AVE are larger than the squared correlations between factors (see table 2) are indicative of the discriminant validity of the measurement model's factors.

*Quality of Service as second-order hierarchical factor*

After demonstrating the data's construct related validity and reliability obtained with the five factors of the QSS, we hypothesized that service quality can be defined as a second-order factor. Thus, we proposed and evaluated if Service quality is properly reflected in the five factors of the QSS scale: Room, Staff, Bar & Restaurant, Reception Service and Safety. Structural weights from the second-order Service quality factor to the first-order factors (Staff, Reception, Bar & Restaurant, Safety and Room) are larger than 0.75, supporting the construct related validity of the second-order Service Quality factor (see Figure 1). Furthermore, the fit indices show a good factorial validity for this second-order factorial structure ( $\chi^2/\text{df}=3.184$ ; GFI=0.923; CFI=0.958; PR=0.850; RMSEA=0.065; AIC=495.931; ECVI=0.971).

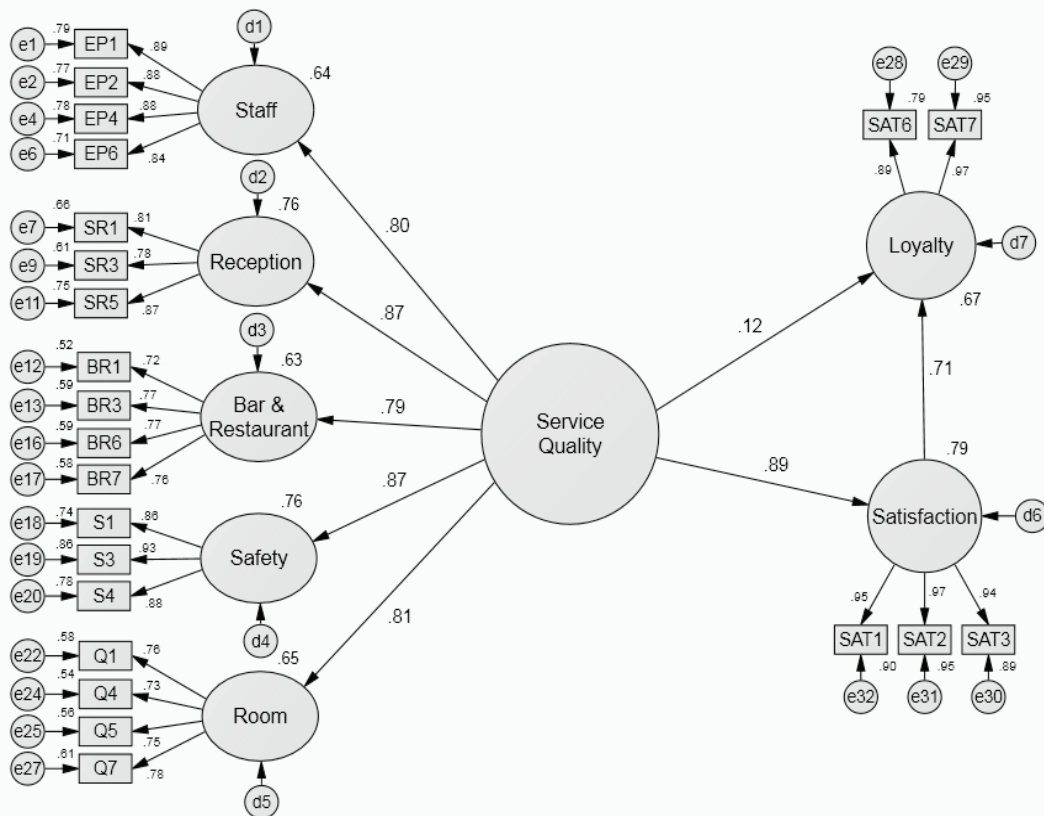
*Is the Quality of Service effect on Loyalty mediated by Satisfaction?*

The research structural model, defining the relationship between the constructs Service Quality, Customer Satisfaction and Loyalty (Figure 1) showed a suitable fit to the variance-covariance data. The standardized coefficients from "Service Quality" to "Customer Satisfaction", and from "Customer Satisfaction" to "Loyalty", were .88 and .74 respectively, and were highly significant ( $p<.001$ ) under the large sample Z test assumptions. Therefore, we confirm our hypotheses H1 and H2. The standardized coefficient from "Service Quality" to "Loyalty" was .13 and not statistically significant ( $p>.05$ ) (Figure 5). These results demonstrate that Service quality does not have a significant direct effect on customer loyalty, contrary to what we hypothesized in H3. The Service quality effect on customer loyalty has only an indirect effect mediated by customer satisfaction. Its standardized bootstrap estimate was .63 and highly significant ( $p<.001$ ), confirming our



research hypothesis H4. It is noticed that the indirect effect of service quality on customer loyalty, mediated by customer satisfaction, was fivefold larger than its direct effect.

**Figure 1 – Structural Model of Service quality/Customer Satisfaction/Loyalty. ( $\chi^2(130)=655.100$ ;  $p<0.001$ ;  $\chi^2/df=2.951$ ; CFI=0.933; GFI=0.853; RMSEA=0.065; NFI=0.939; MECVI=1.599)**



### *1. Discussion and managerial implications*

In order to successfully manage a hotel, hotel managers need to understand what customers want and how they assess the hotel's service quality. This study provides a valid and reliable Service Quality/Customer Satisfaction/Loyalty measuring instrument, which defines five dimensions for service quality: Staff,

Reception, Room, Bar & Restaurant, and Safety. These dimensions have also been referred to in other studies of service quality in the hotel industry (Choi & Chu, 2001; Getty & Getty, 2003; Gundersen, Heide, & Olsson, 1996; Ladhari, 2012; Poon & Low, 2005; Schall, 2003). Furthermore, a structural model relating the service quality, satisfaction and loyalty gave clues to how these variables relate, which has been an area of some debate (Li & Krit, 2012; Olorunniwo et al., 2006). Our results provide some information for hotel managers in terms of how to shape the hotel's guests experiences.

Focusing on the 5 identified dimensions of the Service Quality, the dimensions "Reception" and "Safety" (with factor loadings greater than 0.87) appear to be slightly more important than the other quality of service dimensions. Poon and Low (2005) and Choi and Chu (2001) have also acknowledged the relevance of these dimensions on service quality. In the study by Gundersen et al. (1996), the "Reception" was identified as one of the largest determinants of consumer satisfaction. Ladhari (2012) pointed out that "Tangibility" and "Communication" are likely to be the most important dimensions of service quality. Items in these two dimensions are conceptually similar to the items we used in the "Staff" and "Reception" factors of our proposed scale. These similarities between dimensions of Ladhari (2012) and the present study are relevant in terms of hotel management. Staff, mainly the reception staff, need to show a highly responsive attitude, to be friendly and polite, and are required to be able to solve the hotel guests' problems in a timely manner. "Safety" has also become an important dimension, taking into account the insecurity and social conflicts observed nowadays in a large number of countries with large tourism sectors, and its adverse consequences for the hotel business (Henderson, 2003; Jonas, Mansfeld, Paz, & Potasman, 2011). Managers need to invest more in this area to provide a safe and comfortable environment both in its physical and psychological facets.

The dimensions "Room" and "Bar & Restaurant" have lower weights than the "Reception" and "Safety" dimensions on service quality. This does not mean that one can disregard these services (Jani & Han, 2011). On the contrary, it must be noticed that our study reports to 4- and 5-star Hotels, for which Room and Restaurant quality are taken as granted (J. Lee & Hwang, 2011; Wu & Liang, 2009). In these hotels, staff and safety are dimensions which are becoming more valued by customers, and not taken as guaranteed (Enz, 2009; Feickert, Verma, Plaschka, & Dev, 2006). Finally, it must be noticed that all dimensions are important in the perception of service quality, since all structural weights of service quality to its five dimensions are greater than 0.75. The overall good service in all dimensions defines the perception of a good quality of service.

In this study, we also show that satisfaction is a mediator of the service quality effect on loyalty, with no statistically significant direct effect of service quality on loyalty when satisfaction, as a mediator, is taken into account. This observation is consistent with Olorunniwo et al. (2006), who emphasized the importance of satisfaction as a precursor of loyalty and customer retention (Choi & Chu, 2001; Crick & Spencer, 2011; Nam, Ekinici, & Whyatt, 2011). Thus, service quality is determinant for loyalty but, according to our data, only through satisfaction. This perfect mediation effect explains why, in the presence of Satisfaction as a mediator, the direct effect of the quality of service on loyalty became non-significant. This result, contrary to what was concluded by Li and Krit (2012), suggests that hotel managers should improve practices directed to the satisfaction dimension, since this dimension is a central mediator of the Quality of Service impact on client retention and loyalty. An overall good service is not enough to assure loyal customers. Managers need to be knowledgeable on how to manipulate the service quality dimensions, in order to reinforce positively the guests' satisfaction and consequently their loyalty. Customers need to be satisfied to be loyal (Olorunniwo et al., 2006). Overall, it is recommended that

hotel managers develop programs for the evaluation of service quality and customer satisfaction in a systematic way so that everybody in the organization has an active role in developing marketing strategies best suited for customer retention.

Further research testing satisfaction as a mediator is required to help shape the theoretical framework of the quality of service effect on customer retention and loyalty. The available literature in the hotel service industry has evidenced contradictory reports where satisfaction acts either as a strong mediator (Nam et al., 2011; Olorunniwo et al., 2006) or has a reduced mediating effect (Li & Krit, 2012). It is possible that the type of hotel will have an effect on the model framework and in the impact of its variables. Clients for 4-star and 5-star hotels may give more value to the satisfaction dimension in the intention to return and repurchase the hotels' services than clients which favor 2-3 star hotels where the quality of service and its relation with price may be determinant in the intention to return without being mediated by satisfaction. This hypothesis, being true, is a strong limitation to the generalization of our mediation model to the Hotel industry since our sample is composed by 4-star 5-star hotel guests only. However, the limitations of this study and the hypothesis that the mediation effect of satisfaction may be different for different hotel types and services points to new directions for future research.

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