Effects of quality management on hospitality performance in different contexts

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Abstract

Purpose – The purpose of this paper is threefold: first, to test the role of the managerial team's commitment to quality deployment, quality performance and firm performance; second, to shed light on the effects of a certified quality management system on this chain; and third, to analyze the effects of changes in this chain on different management team attitudes, namely, innovativeness.

Design/methodology/approach – Based on a survey conducted in a sample of 370 hotels from the region of Madrid (Spain), the model and hypotheses were validated using structural equation modeling analysis.

Findings – The results reveal the importance of a commitment to quality for quality deployment. In addition, quality deployment has a strong impact on operations and employee and customer performance. However, only impacts derived from customers' perceptions of service quality affect firm performance. In addition, a contextual analysis was performed to verify whether various contextual factors (certification in a quality management standard and the innovative attitude of the management team) could modify the previously obtained results for the full sample.

Practical implications – The management team should understand that its attitude toward quality management could affect the company's overall performance. On the one hand, the team should be aware that the cost of implementing quality practices could be a burden for employees in the performance of their daily activities. On the other hand, there is a positive relationship between involvement in addressing customers' requirements and financial performance. Therefore, a balance between the efforts to maintain a certain level of quality by the firm's employees and the service quality offered to the customers is crucial to achieving better financial performance.

Originality/value – The impact of the implementation of quality management practices on performance has been widely studied; however, the role of intangible factors has not been commonly discussed in service industries in general and even less so in the hospitality sector. This paper analyses the influence of the quality management team's attitudes toward innovativeness and the implementation of a quality management standard.

Keywords Innovativeness, Customers' performance, Employees' performance, Management attitude, Quality deployment, Quality management standard

Paper type Research paper

1. Introduction

The hospitality industry faces multiple changes. The primary changes are economic issues, greater competition and increasing customer demands. In addition, human resources management has become more difficult due to certain employees' attitudes

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(Testa and Sipe, 2012). The challenge is to do more with less (Wang and Wang, 2009). Given that the hospitality industry contains high levels of service and customer interactions in production, service quality is the primary means of ensuring hotels' long-term managerial success (Testa and Sipe, 2012; Ostrom *et al.*, 2015).

However, Zhao *et al.* (2004) stated that not all quality practices are effective in all type of organizations. These authors found that certain quality management practices, particularly management team commitment, could play relevant roles in chain quality management, quality performance and firm performance. The authors also suggested that it is therefore unnecessary for a company to adopt all quality management practices to achieve good performance. Sousa and Aspinwall (2010, p. 478) asserted that "the adoption of QTs and techniques, and the views of senior management [...] are unique in each case." In fact, more recent research in service quality has shown differences in the most critical dimension, depending on the type of service. Thus, Kayeser and Razzaque (2014) advised that, in service banking, relational aspects are the most valued by customers (see Manaf *et al.*, 2015). However, in medical care services, aspects related to staff quality were the most relevant (Thawesaengskulthai *et al.*, 2015). Finally, in the case of retail stores, intangible factors seem to be increasing in their importance over other factors (Chen *et al.*, 2015). In hospitality, customer-centered competencies, such as recognizing customer problems, maintaining customer satisfaction and addressing customer concerns, appear to be essential factors for measuring service quality (Abrate *et al.*, 2011; Alonso-Almeida and Bremser, 2013). This reasoning suggests that several implications must be considered in the hospitality industry. First, a number of critical quality factors in the hospitality industry and different approaches to the deployment of quality practices could differ from those found in manufacturing firms or other service industries (Kaltcheva *et al.*, 2013). Second, according to previous authors, the critical factors for the adoption of quality management in services have often been linked to a range of intangible factors, such as employee empowerment, open organization and process improvement to adapt hospitality services to customers' requirements and expectations. As a consequence, the attitudes of management teams toward quality management could affect quality deployment and overall company performance.

In addition, previous research has primarily focussed on the impact of quality practices and quality management practices on performance (see Nair, 2006; Alonso-Almeida *et al.*, 2012 in hospitality). Nevertheless, studies have yet to consider the entire chain from quality deployment to quality performance and to firm performance in other contexts. Thus, the attitudes of management teams toward quality deployment can affect quality deployment's actual impact on service (Feng and Zhao, 2014). Therefore, it appears necessary to understand the role of the management team in the extent of quality involvement and quality commitment to develop the competencies that are critical for service quality in the hotel industry. In addition, other management team behaviors, such as innovativeness, and their effects on quality and firm performance have, to the best of our knowledge, not yet been studied. Thus, despite the ample research in quality management, there is room for further advancement because the role of management and its application and commitment have generally received scant attention and have been studied only in an indirect manner.

Therefore, the aim of this paper is threefold: first, to assess the role of management team commitment in quality deployment, quality performance and firm performance; second, to shed light on the effects of a certified quality management system on this

chain; and third, to analyze the effects of changes in this chain on different management team attitudes, namely, innovativeness.

Therefore, this study makes a number of contributions to the existing literature. First, this study sheds light on the literature on quality management practices and their performance from the perspective of operations management, emphasizing the role of management commitment in quality deployment. Second, it proposes a model to validate the roles of quality practices in terms of direct performance – with regard to customers, operations and human resources – while simultaneously mediating their roles in terms of competitiveness and financial performance through structural equation analysis. Finally, the study provides insights into how selected management behaviors, such as innovativeness, improve firm performance.

The remainder of this paper is structured as follows. Section 2 discusses the theoretical arguments concerning quality management in the hospitality industry. Section 3 describes the empirical research design. Section 4 presents the quantitative analysis, and Section 5 presents the findings. Section 6 presents several major conclusions drawn from the research.

2. Literature review

2.1 Quality management and quality performance in the hospitality industry

Because hospitality and tourism management require service-leadership competencies, they should result in leadership behaviors that facilitate employee service performance and customer satisfaction (Testa and Sipe, 2012). Grönroos (1983) defined two components of services: technical and interpersonal components. Technical components refer to how thing are done (process), and interpersonal components concern customers' received traits (customer-employee interaction). Testa and Sipe (2012) suggested that excellence in service requires understanding and competence in both areas.

Previous research has emphasized certain critical drivers of quality management. The most important of these drivers is commitment by top management (Saraph *et al.*, 1989). Talib *et al.* (2011) asserted that the commitment of top management is a crucial component of the successful implementation of quality programs in service industries. There are several reasons to emphasize the importance of the management team's commitment to quality service management. First, this commitment is responsible for establishing and communicating clear objectives and goals, as well as providing direction to achieve them and to develop a quality culture (Talib *et al.*, 2011). Second, the implementation of quality management requires certain investments in information, training, human resources and organizational changes, and management teams must be convinced that implementation is actually achieved and not simply claimed (Ostrom *et al.*, 2015). In contrast, the staff's reluctance to change can make it necessary for the management team's commitment to be taken seriously and not regarded as a fad (Nicolau and Sellers, 2010). Finally, the management team should prioritize quality management throughout the value chain to improve service, particularly because the results of such efforts not always are observable in the short term. Moreover, this commitment should be spread throughout an organization to reinforce a culture of quality (Talib *et al.*, 2011).

Thus, a commitment to quality entails seeking the most effective techniques for businesses. Management's commitment to quality should address factors that are critical to the industry in question. In the case of the hospitality industry, the most relevant factors encouraging improved quality are guest-focussed behaviors

(Raybould and Wilkins, 2006; Alonso-Almeida *et al.*, 2012; Rodriguez-Anton *et al.*, 2013), maintaining relationships with customers and other stakeholders to understand their requirements (Raybould and Wilkins, 2006) and measuring service quality (Parasuraman *et al.*, 1994; Ostrom *et al.*, 2015). In this sense, quality management practices, such as mystery guests, are necessary to ensure consistent quality (Abrate *et al.*, 2011), which suggests the following hypothesis:

H1. Quality commitment is directly and positively related to the deployment of quality management practices.

When companies adopt quality practices, there is an immediate impact in terms of the companies' operational management, employee performance and customer satisfaction (e.g. Tarí *et al.*, 2009; Alonso-Almeida *et al.*, 2012). These improvements are directly related to quality practices; therefore, they can be termed quality performance.

Regarding operations, studies have observed improvements in operating processes that translate into greater productivity, improved error reduction and increased operational reliability, providing savings in operations, standardizations of services, reduced process times, improved cost effectiveness and reduction in waste through more effective processes and product control in both the manufacturing and service industries (e.g. Dow *et al.*, 1999; Nield and Kozak, 1999; Brunet and Alarcon, 2007; Rodriguez-Anton and Alonso-Almeida, 2011; Alonso-Almeida *et al.*, 2012, 2015).

Specifically considering the hospitality industry, using a sample of 49 certified hotels, Nield and Kozak (1999) found evidence of operational benefits. Specifically, standardized, written working procedures reduced both errors and process variability. In this vein, Alonso-Almeida *et al.* (2012) found that quality management practices adopted due to internal motivations directly affect operations. Additionally, Alonso-Almeida *et al.* (2015) demonstrated that quality practices produce improvements in the operational performance of travel agencies in terms of maintenance, costs and service quality.

However, albeit to a lesser extent, other studies have found that quality practices entail improvements in employee working conditions, occupational health, training, promotion (Rubio-Andrada *et al.*, 2011; Alonso-Almeida *et al.*, 2015) and job satisfaction (Dow *et al.*, 1999). These improvements are of cardinal importance in companies for which service involves intense customer contact, such as in hotels. Specifically, employees should be more independent in their work due to the existence of working procedures and routines (Rodriguez-Anton and Alonso-Almeida, 2011). Thus, previous research on the hospitality industry has demonstrated that quality practices can alter employees' attitudes and increase work satisfaction (Pereira-Moliner *et al.*, 2012).

Finally, quality practices that focus on customers seek to analyze customer requirements to incorporate these requirements into products or services (Testa and Sipe, 2012) and to improve customer satisfaction (Molina-Azorín *et al.*, 2009; Pereira-Moliner *et al.*, 2012) and word-of-mouth (Fuchs and Weiemair, 2004). These considerations lead to the following hypotheses:

H2. Quality deployment is directly and positively related to operations performance.

H3. Quality deployment is directly and positively related to employee performance.

H4. Quality deployment is directly and positively related to customer performance.

However, quality practices do not only have direct, positive effects on employee operations and customer performance. Recent research on this topic has emphasized

that quality practices have a positive impact on firm financial performance, mediated by impacts on the aforementioned dimensions (operations, employees and customers) (see Llach *et al.*, 2013; Alonso-Almeida *et al.*, 2015).

Thus, previous research has demonstrated that firm performance can be measured using various indicators (see Nair, 2006). Formerly, the most commonly used of these indicators was financial performance, which is measured in various manners, including increased sales. The reason for considering sales is that customers who are provided better service are more satisfied, which can affect purchasing decisions, improve brand imaging and increase company turnover (Nield and Kozak, 1999; Yee *et al.*, 2008; Molina-Azorín *et al.*, 2009; Pereira-Moliner *et al.*, 2012; Llach *et al.*, 2013).

Additionally, employees are more satisfied with their jobs, more committed to their companies and more customer oriented (Yee *et al.*, 2008). In addition, quality service is the best strategy during crises, when the best performers focus on maintaining a balance between quality and price to create a loyal customer base (Alonso-Almeida and Bremser, 2013). Thus, it should be possible to earn more income than one's competitors (Alonso-Almeida and Bremser, 2013). Based on the aforementioned points, other proposed hypotheses are as follows:

H5. Quality deployment is positively related to firm performance, mediated by operations performance.

H6. Quality deployment is positively related to firm performance, mediated by employee performance.

H7. Quality deployment is positively related to firm performance, mediated by customer performance.

2.2 Quality certification programs

The extant hospitality literature has emphasized the relationship between adherence to quality programs and these programs' involvement in reputation-building processes (Abrate *et al.*, 2011). Quality certification represents a mark of respect for hotels, and it acts as a signal to markets and customers that indicates security and conformity (Abrate *et al.*, 2011).

In contrast, quality certification reduces asymmetric information about service quality. For this reason, customers could use quality certification as a decision-making tool for selecting among hotels when there are no differences in price (Nicolau and Sellers, 2010). Moreover, another added value from quality certification it is that it facilitates the development of a quality culture within an organization (Tari-Guillon and Pereira-Moliner, 2012).

Thus, prior research has demonstrated that hotels with quality certifications obtain greater benefits than hotels without such certifications in management skills, marketing performance, operations improvements and employees satisfaction due to quality practices (Lee *et al.*, 2009; Tarí *et al.*, 2009; Rodriguez-Anton *et al.*, 2013; Alonso-Almeida *et al.*, 2015), as well as better firm financial performance (Benner and Veloso, 2008; Molina-Azorín *et al.*, 2009; Tari-Guillon and Pereira-Moliner, 2012). However, Abrate *et al.* (2011) found no evidence of quality certification affecting hotel prices. Moreover, other researchers have reported no evidence of improved financial performance (e.g. Lo *et al.*, 2011). Therefore, quality certification need not guarantee tangible benefits for firms or even the expected benefits. Thus, identifying the impacts of quality certification on entire chain – quality deployment, quality performance and

firm performance – could increase understanding and measure the value of a certification. Because most of the research appears to agree that quality certification is highly valuable, the following hypothesis is proposed:

H8. Hotels with quality certification obtain higher quality deployment, quality performance and firm performance than hotels without it.

2.3 Quality management and innovation behavior

An attitude of innovativeness on the part of management teams active in quality practice deployment is necessary to avoid merely imitating the practices of other companies (Ostrom *et al.*, 2015).

Thus, quality deployment and performance can depend on management's effectiveness in communicating the importance of quality and how activities are organized to achieve a company's goals (Goetsch and Davis, 2006). The complexity and changes in the hotel business environment make innovativeness crucial to addressing environmental challenges. Moreover, as Cairncross and Kelly (2008) noted, the characteristics of the hospitality industry, due to its high dependence on human capital, make innovativeness crucial to addressing the expectations of all stakeholders.

Following this line of reasoning, a process of continual improvement also requires an innovative attitude to more effectively identify new ways of improving positive processes (Talib *et al.*, 2011; Ostrom *et al.*, 2015). For the aforementioned reasons, we expect that the application of innovativeness to quality practices will achieve better results throughout the quality chain: quality deployment, quality performance and firm performance. In agreement with this expectation, Wiengarten *et al.* (2013) found that innovativeness and quality practices have stronger positive impacts on operational performance in manufacturing firms. However, when firm performance is analyzed, the effects of quality practices and innovative attitudes remain somewhat unpredictable, and the results are not uniformly positive or significant. Given the apparently positive impact of an innovative attitude, we propose the following hypothesis:

H9. Hotels with top management having highly innovative attitudes realize greater quality deployment, quality performance and firm performance than hotels without such attitudes (Figure 1).

3. Methodology

3.1 Sample and method

The sample considered in this study consisted of 370 hotels from the region of Madrid (Spain). The data were obtained through personal interviews conducted at the end of 2012 with the persons responsible for these businesses, based on a structured questionnaire. The average respondent's profile was male (53.2 percent) with fewer than ten years of experience with the hotel (76.9 percent). Therefore, we assumed that the respondent profile did not bias the responses because the sample was nearly balanced with regard to gender, and most of the respondents had similar career histories in their establishments.

The main reason to focus the analysis on the Madrid region is the importance of the tourism sector in Spain in general and in the Madrid region in particular. Currently, Spain's foreign tourist industry is the second largest in the world, and it earns approximately €40 billion per year. In 2013, Spain was the third-most visited

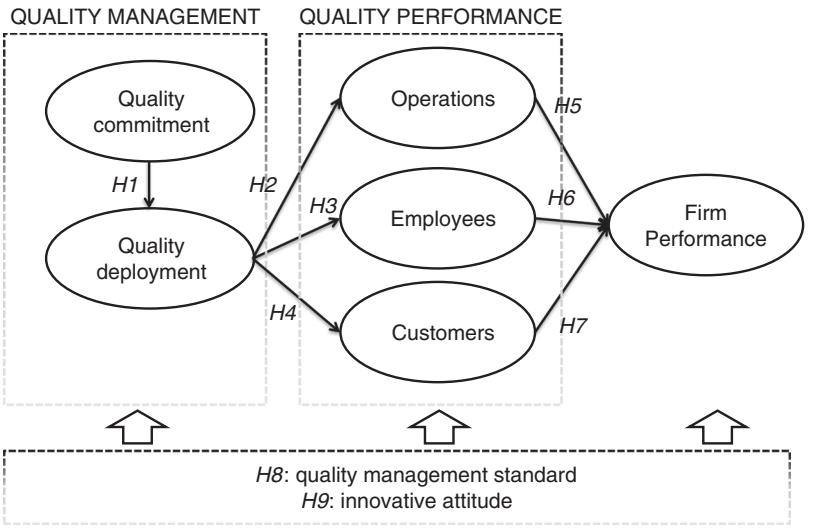

Figure 1. Working model proposed

country in the world, with more than 60 million tourists. The region of Madrid is one of the most important regions in Spain. It accounts for 18 percent of GDP and 9.7 percent of the total GDP from tourism activity in Spain (INE, 2014).

The questionnaire was structured in three main sections: quality; environmental responsibility; and corporate social responsibility. For the purposes of the present paper, only the first section was used. The questions in the survey concerning the subject of quality can be seen in Table AI. In addition, to classify the respondents by type, a section was added to the end of the survey to analyze the specific characteristics of each establishment. Aspects such as the number of rooms, number of employees and hotel qualifications were included in this section. Table I presents the profiles of the hotels that responded to the survey.

As Table I indicates, the mean profile of the respondents was a hotel with approximately 100 rooms, with approximately 30 employees, which were quite new (ten-years old) with a median ranking of four stars. The innovative attitude declared by

	n	Median	Mean	SD	1	2	3	4	5	6
1. Hotel size (rooms)	324	100	134.151	107.810	–					
2. Number of employees	334	28	46.568	64.095	0.542**	–				
3. Age (years)	332	10	18.006	19.903	0.085	0.081	–			
4. Number of stars	290	4	3.624	0.725	0.300**	0.304**	−0.094	–		
5. Quality management standard[a]	370	–	0.262	0.440	−0.021	0.05	−0.049	0.02	–	
6. Innovative attitude[b]	359	3	2.855	0.721	0.076	0.172**	0.130**	0.006	0.114**	–

Notes: [a](0 = no, 1 = yes); [b](1 = no, 2 = low, 3 = quite, 4 = high). **p-value < 0.05

Table I. Descriptive statistics and correlation matrix

the respondents showed a median of three out of four, indicating a very innovative attitude. Because the hotels were selected randomly, unlike the respondents' profiles, the authors considered it necessary to determine whether there were differences in behavior due to the location of the hotel. Because the hotels are spread across the Madrid region, we analyzed possible differences between the establishments located in the center of Madrid and those on the periphery. However, a non-parametric analysis revealed no differences.

In addition, the correlation matrix (Table I) revealed interesting relationships. It was clear, for example, that the size of the hotel was strongly correlated with the number of employees or the hotel's star rating. However, it is also interesting that there were no significant correlations between hotel size and innovative behavior on the part of the hotel's management.

In addition, there was no significant correlation between size and having implemented a quality management standard. The sole correlation with the use of quality management standards was observed for hotels with more innovative attitudes.

3.2 Measurements

A combination of single- and multiple-item scales was used to test the hypotheses. The six constructs explored in the study were drawn from the contents of the above literature review to ensure face and content validity, and they are summarized in Table AI. Perceptual measurements and a seven-point Likert scale (1 = totally disagree; 7 = totally agree) were used to measure the variables employed in the proposed working model.

4. Data analysis and statistical results

The results are presented in three sections. First, the validity and reliability of the measurement scales are analyzed. Second, the working model is analyzed using a structural equation model (SEM). Third, an additional contextual analysis is conducted to determine whether certain contextual factors (quality standards and innovative behavior) influenced the validation of the hypotheses.

4.1 Measurement model: validity and reliability

Convergent validity can be assessed by determining the significance of a factor's loading on its posited underlying construct. In this manner, three exploratory principal component factor analyses, using varimax rotation, were conducted. Table AI reports that all of the items loaded significantly on their posited constructs, thereby indicating convergent validity because all of them were greater than the cut-off level of 0.6.

Construct reliability or internal consistency was assessed using Cronbach's α. Table II reports the values for all of the constructs. In all of the cases, the values were

	QCOMM	QDEPL	QOPER	QEMPL	QCUST	COMP	Reliability (Cronbach's α)
QCOMM	*0.858*[a]						0.862
QDEPL	0.514	*0.766*					0.719
QOPER	0.427	0.429	*0.787*				0.784
QEMPL	0.464	0.404	0.567	*0.776*			0.834
QCUST	0.508	0.418	0.504	0.676	*0.774*		0.813
COMP	0.529	0.498	0.338	0.439	0.568	*0.855*	0.906

Table II. Correlations, reliability and discriminant validity

Note: [a]Square root of average variance extracted (AVE) in the diagonal

greater than 0.6, indicating acceptable reliability of the measurement items (Nunnally, 1978). In addition, Table II also reports an adequate level of discriminant validity with the square root of average variance extracted, based on the items of the construct, which was greater than the correlations in the off-diagonal between two constructs, which were all significant at a p-value < 0.01.

4.2 Structural model results

The use of SEM has rapidly expanded in many disciplines in recent decades because of the increase in complexity in the estimation of new theoretical proposals articulated by means of complex models (Shook *et al.*, 2004). The social sciences have not been an exception to this global methodological trend. In fact, the use of SEM has become the most popular approach for causal analysis in the social sciences (Bollen and Pearl, 2013), and it remains the preferred data analysis method today for confirming or rejecting theories through the testing of hypotheses.

Two different but complementary statistical methods for SEM, variance-based partial least squares SEM and covariance-based SEM, are mainly applied because the advantages of the one method are the disadvantages of the other and vice versa (Hair *et al.*, 2012).

However, the rapid expansion of the use of SEM has resulted in the technique not always being well applied. Several authors have detected critical issues in its application. For instance, Martínez-López *et al.* (2013) summarized a broad variety of classic and recent controversies and issues related to the use of SEM. They classified the controversies into two categories: χ^2 tests and goodness-of-fit (GFI) indices. For each identified problem, Martínez-López *et al.* (2013) prescribed a compendium of solutions for its suitable application.

In the same sense, Hair *et al.* (2012) proposed, based on the analysis of 37 studies published in eight leading management journals, general guidelines for future users of SEM based on three critical issues: data analysis, model specification and model evaluation. Bollen and Pearl (2013) also presented eight myths about causality and SEM in the hope that it would lead to more accurate understanding.

Therefore, it is very important to be strict in the use of SEM to ensure rigorous research and to avoid not fully using the method's capabilities or sometimes even misapplying the theory.

In the present paper, although the use of SEM has the limitation that it assumes linear relationships between latent variables, we believe that it is the best technique to test the proposed working model. Concretely, SEM was performed using the maximum likelihood method and EQS software (version 6.1) (Bentler, 1995).

Figure 2 depicts the fit indices of the measurement model using the maximum likelihood method from the asymptotic variance-covariance matrix.

The χ^2 test indicates the difference between expected and observed covariance matrices. A χ^2 value close to zero indicates little difference between the expected and observed covariance matrices. A χ^2/df less than the acceptance limit of five indicates acceptable model fit (Hair *et al.*, 1998). In both cases, the values obtained met the minimum criteria: 567.18 for χ^2 and 2.80 for the ratio χ^2/df.

The Joreskog-Sorbom GFI is a measurement of the relative numbers of variables and covariances jointly explained by the model. An acceptable model fit is indicated by a GFI greater than 0.8 (Hu and Bentler, 1999). The comparative fit index (CFI) is a revised form of the Normed Fit Index that considers sample size and that performs well even when the sample size is small (Tabachnick and Fidell, 2007). As previously, both indices exceeded the minimum values required: 0.828 for GFI and 0.893 for CFI.

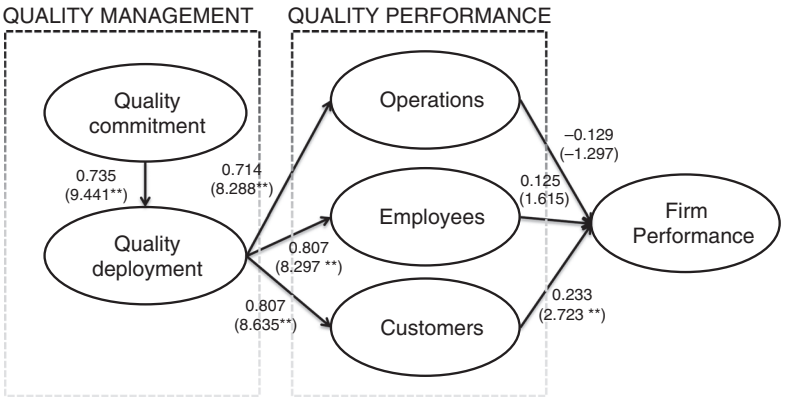

Figure 2.
Standardized solution of the causal model

Notes: Fit statistics: χ^2 (df=202)=567.148; GFI=0.828; CFI=0.893; RMSEA=0.071; SRMR=0.063. **Significant at a $p<0.05$

The root mean squared error of approximation (RMSEA) is related to the residual error in the model. RMSEA values range from 0 to 1, with a smaller RMSEA value indicating better model fit. A value of the RMSEA of approximately 0.08 or less would indicate a good fit (MacCallum *et al.*, 1996) with a reasonable error of approximation (Browne and Cudeck, 1993). Finally, the SRMR is an absolute measurement of fit, defined as the standardized difference between the observed correlation and the predicted correlation. A value less than 0.08 is generally considered a good fit (Hu and Bentler, 1999). Again, both RMSEA and SRMR met the statistical criteria because both values (0.071 and 0.063, respectively) were less than the required cut-off level.

Therefore, according to the statistics described above, the measurements reflect the explanatory power of the model. Thus, the proposed model fit indices indicated that the model represented the data fairly well.

4.3 Additional contextual analysis

A contextual analysis was performed to verify whether different contextual factors could modify the previously obtained results for the whole sample. Two different dichotomous variables were used: whether the hotel has implemented a quality management standard (0 = no, 1 = yes); and the innovative attitude of the management (0 = low, 1 = high).

The dichotomous innovation variable was obtained by transforming a four-point Likert scale (1 = no innovative attitude, 2 = low innovative attitude, 3 = somewhat innovative attitude, 4 = high innovative attitude) into two categories (1/2 = low, 3/4 = high). The authors considered it reasonable to transform the categorical variable into a dichotomous variable to obtain subsamples with sufficient sizes for statistical analysis.

Table III reveals that significant differences appeared when the model was analyzed according to the different contextual factors.

Specifically, when the sample was divided according to whether the firm had implemented a quality management standard, there were significant differences (at p-value < 0.1) regarding the third and sixth hypotheses. While being certified strengthened the impact of quality deployment on employee performance, it simultaneously weakened the impact of employee performance on firm performance.

Table III.
Contextual analysis by quality standard and innovative attitude

Hypothesis	Aggreg. sample ($n = 370$)	Quality standard				Innovative attitude			
		Yes ($n = 97$)	No ($n = 273$)	$\Delta\chi^2$ (Δdf)	p-value	High ($n = 246$)	Low ($n = 113$)	$\Delta\chi^2$ (Δdf)	p-value
H1	0.735 (9.441)**	0.834 (5.916)**	0.746 (9.018)**	0.529 (1)	0.467	0.729 (7.008)**	0.738 (6.373)**	1.456 (1)	0.227
H2	0.714 (8.288)**	0.706 (4.252)**	0.726 (8.047)**	0.262 (1)	0.608	0.714 (6.745)**	0.720 (5.188)**	1.489 (1)	0.222
H3	0.807 (8.297)**	0.576 (3.640)**	0.880 (8.249)**	2.794 (1)	*0.090**	0.855 (7.944)**	0.787 (4.952)**	1.666 (1)	0.196
H4	0.807 (8.625)**	0.911 (7.250)**	0.866 (8.486)**	0.856 (1)	0.354	0.985 (7.770)**	0.726 (4.953)**	0.852 (1)	0.355
H5	−0.129 (−1.297)	−0.142 (−0.947)	−0.055 (−0.661)	0.044 (1)	0.833	−0.206 (−1.575)	−0.060 (−0.440)	0.387 (1)	0.533
H6	0.125 (1.615)	−0.280 (−2.351)**	0.174 (1.350)	3.434 (1)	*0.063**	−0.401 (−1.616)	0.305 (2.154)**	2.723 (1)	*0.098**
H7	0.233 (2.723)**	1.135 (5.977)**	0.562 (3.700)**	0.765 (1)	0.381	1.279 (3.982)**	0.310 (2.333)**	3.757 (1)	*0.052**

Notes: *p-value < 0.1; **p-value < 0.05

Similarly, significant differences arose when the model was analyzed with regard to management's innovative behavior. Specifically, these differences emerged for the sixth and seventh hypotheses but also with different results. On the one hand, it appeared that the higher the innovative attitude was, the greater the impact on firm performance was (seventh hypothesis). However, on the other hand, the significant difference in the sixth hypothesis indicated that only firms with attitudes of low innovation experienced an effect on firm performance.

5. Discussion of results

5.1 Results

The statistical results generally supported the proposed model. The hypotheses will now be contrasted, and the findings will be explained.

Quality commitment throughout an organization is a key driver of quality deployment. Thus, when a firm's quality culture is more developed, the firm can choose more effective quality practices to maximize quality performance. Thus, a weak commitment to quality could result in a low level of quality deployment or in the misapplication of quality. Therefore, this finding supported previous research regarding the importance of quality commitment, but it provided a new nuance. Thus, not all quality practices are equally effective because they might depend on business and contextual factors, such as the attitudes of the management team (Wiengarten *et al.*, 2013). Therefore, the priority assigned to quality practices and the extent to which they are implemented could be determined by a defined, deliberate strategy, supported by a strong commitment by management. Therefore, *H1* is accepted.

Quality deployment has a strong impact on quality performance, as previous research has reported (e.g. Tarí *et al.*, 2009; Alonso-Almeida *et al.*, 2012 among others). Our findings did not reveal significant differences among the studied dimensions (operations, customer and employee performance). Thus, it appears that quality deployment can have similar positive effects on operations and employee and customer performance. Therefore, when quality deployment is based on a strong commitment to quality, hotels clearly perceive its positive impacts. This finding supported the prior research. For instance, Alonso-Almeida *et al.* (2012) reported that, when hotels do not perceive quality management to be a strategic asset, quality deployment could have a limited impact. Therefore, all efforts to pursue quality have direct impacts throughout a company. For the aforementioned reasons, *H2*, *H3* and *H4* are accepted.

However, not all of the benefits of quality performance accrue to firm performance. Thus, only the impacts derived from customers' perceptions of quality service affect firm performance. This finding could be explained by the present global financial crisis, which has forced a greater focus on cost-cutting activities (Alonso-Almeida and Bremser, 2013). Moreover, early quality adopters can gain benefits that might be more limited for later adopters (Benner and Veloso, 2008), and the effects of process management practices based on quality could dissipate over time (Casadesus and Karapetrovic, 2005). Thus, focussing on the deployment of quality practices directly related to customer service appears to be essential to firm performance because these types of quality practices can provide additional added value to customers and can secure their loyalty (Alonso-Almeida and Bremser, 2013). Therefore, *H5* and *H6* are rejected, and *H7* is accepted. In conclusion, it will be necessary to increase efforts to heed customers' wishes because they are important to obtaining better firm performance. Thus, hotels should periodically measure the quality of their services to analyze not only faults but also ways to improve performance according to their

customers' requirements. Nevertheless, the findings regarding employees indicated that hotels with quality certifications perceived a significantly negative impact on the quality performance of employees, in contrast with previous research (Alonso-Almeida *et al.*, 2012). A possible explanation is that the recent financial crisis has compelled hotels to engage in cost-cutting activities. In this context, employees perceive quality certification activities and duties to additional burdens, which could decrease their satisfaction with their jobs and promote certain bad attitudes (Testa and Sipe, 2012). In conclusion, *H8* is partially accepted.

The other significant difference concerns the effect of quality performance derived from customers on firm performance, which is higher among highly innovative hotels. This finding conforms to expectations. Customers valued an innovative attitude toward seeking new ways to improve processes and products (Talib *et al.*, 2011). This finding in also in accordance with previous research, which suggested that customers seek new experiences and a sense of exclusivity. An innovative attitude could cater to these requirements and thus increase firm performance. Therefore, *H9* is only partially accepted. A summary of the hypothesis results is presented in Table IV.

5.2 Discussion

Regarding the impact of quality certification, the chain from quality management to quality performance and firm performance differed from the results for the complete sample and from previous research (e.g. Nair, 2006; Molina-Azorín *et al.*, 2009). On the one hand, quality deployment appeared to be weaker among hotels lacking quality certification. One possible explanation is that hotels with quality certifications focus on satisfying certification requirements and not on other specific quality practices. Another explanation is that they might apply more advanced quality practices, given their knowledge of quality and experience.

On the other hand, the impacts on quality performance were perceived to be greater among hotels lacking quality certification, which could be due to the effects of certification dissipating over time. Thus, this finding suggested that the impacts of quality practices over time could also be incremental. Casadesus and Karapetrovic (2005) suggested this possibility for manufacturing industries, but it could also be applied to service industries. It will be necessary to focus more on the effects of quality over time in future research.

Nevertheless, firm performance was higher among hotels with quality certifications than among other hotels. This finding was not novel. Prior research in the hospitality industry has obtained this result (Molina-Azorín *et al.*, 2009; Rubio-Andrada *et al.*, 2011;

Hypothesis	Result
H1	Accepted
H2	Accepted
H3	Accepted
H4	Accepted
H5	Not accepted
H6	Not accepted
H7	Accepted
H8	Partially accepted
H9	Partially accepted

Table IV. Results of hypotheses tests

Alonso-Almeida *et al.*, 2012; Tari-Guillon and Pereira-Moliner, 2012 among others). Therefore, hotels with quality certifications perceived higher firm performance, even when their quality performance was lower. Thus, this finding suggested that the added value derived from certification affects a hotel's image, income, ability to maintain a market presence in times of crisis and customer and employee satisfaction. Therefore, these findings suggested that quality certification has greater importance for competitiveness than as a marketing approach.

Finally, an innovative attitude appeared to be key to more effective quality implementation. Thus, innovative attitudes could provide new means of developing service, empowering employees and providing improved products (Wiengarten *et al.*, 2013). Nevertheless, two significant differences were observed with regard to the full sample. The perceived effect of employees' quality performance was positive and significant in the case of hotels with low innovation levels, indicating that these hotels perceived better effects on quality performance derived from employees. Thus, this finding suggested that innovativeness could be a cause of dissatisfaction among employees when their jobs are subject to constant change. Employees require time to learn and to assimilate to job activities, and for this reason, a highly innovative attitude could constitute a challenge for employees. Similarly, this issue requires in-depth study.

6. Conclusions

The findings of this study suggest a number of conclusions and recommendations for the service sector in general and for the hospitality industry in particular.

First, quality commitment is directly and positively related to quality management deployment. Therefore, it appears clear that the management team's attitude toward quality management could, first, affect quality deployment, and ultimately, affect firm performance. A clear commitment to and strong cooperation with customers and providers on the part of the management team positively affect the implementation of quality techniques and practices within a firm. Therefore, because service quality is essential for achieving long-term market success, as previous research has reported, a strong commitment by the management team to involving the entire organization is a key driver. Thus, quality practices, such as mystery guests, emerge as tools to improve competitiveness and to correct possible service mistakes in the hospitality industry, in which there is continual interaction between the customer and the hotel during the guest's stay.

Second, the implementation of quality practices and techniques within a firm similarly affects the company's overall performance in terms of operations and employee and customer performance. Nevertheless, these dimensions are interrelated, and improvements in one could have a positive impact on the others. Therefore, even small efforts to implement quality practices could have benefits for an organization. Thus, the hospitality industry should encourage the development of a quality culture within companies because small steps in this sense have a substantial impact on performance.

Third, these benefits do not equally translate into firm performance. Thus, it is clearly important to identify and address customers' requirements to ensure competitiveness in service industries in general, as well as in the hospitality sector in particular. Quality management makes it possible to determine the extent to which a hotel satisfies customer expectations before a given customer becomes dissatisfied and is subsequently lost. As a result, it is necessary to monitor customers' experiences during their stays to avoid missing the opportunity to strengthen relationships and to improve the service quality that a hotel offers.

Fourth, additional contextual analyses (certification as a quality management standard and the innovative attitudes of management teams) suggested that differences exist in terms of the strength and statistical significance of some of the proposed relationships. The use of a quality management standard affects the relationships among quality deployment, employee performance and firm performance. Quality certification reinforces the impact of a quality management program on hotel performance in terms of image and competitors' positions. Thus, to implement quality management effectively, it is useful to have a quality management standard in place, but the management team must be aware that, in a cost-cutting context, employees could regard quality certification as a burden to their daily activities, which could negatively influence the firm's performance. Achieving a balance between the advantages of certification and daily responsibilities should be found to avoid certain undesirable employee attitudes that could have negative effects on service.

Similar effects were observed for another contextual factor: the management team's attitude toward innovation. Again, it appeared that while customers appreciate a hotel having an innovative attitude, for instance, in providing new or improved services, employees perceive innovative attitudes as a further burden in their jobs. It is possible that managers substantially involving employees in the development of new services could facilitate employee assimilation; therefore, the employees would regard innovation as an added value and not as a burden on their daily activities. Thus, employee training could be useful in avoiding resistance to the changes produced by quality management practices.

Therefore, it seems that both quality theory and management practices require a redefinition to adapt services management to the currently changing environment (Ostrom *et al.*, 2015). Thus, advances in this topic should advance new drivers, measurement models and tools through the pioneering works of Parasuraman and others in this topic.

Finally, this study raises additional questions that require further research, such as why quality certification or the management team's innovative attitude can negatively influence the firm's performance due to the employees' perceptions. To facilitate bridging this gap, we propose that such research specifically focus on understanding how contextual changes can modify employee perceptions of the importance of quality certification and of management's innovative attitudes.

In addition, this study is subject to certain limitations, one of which is common to most surveys of its kind: it was conducted in a single, specific region and in a specific sector. However, because Spain is a leading tourism country, and the sample was large, the results could be regarded as representative of the region studied, and they could provide an indication of the situation of this sub-industry in Spain as a whole. Data collection via interviews involves a further limitation, inasmuch as this method could introduce elements of subjectivity or bias, but these objections are diluted by the volume of interviews conducted, as confirmed by the results of the statistical tests that we performed.

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Appendix

		Mean	SD	Loadings		
Quality management						
Quality commitment						
QCOMM1	The management is committed to product and service quality	6.116	1.230	*0.875*		
QCOMM2	The company collaborates with the customer to improve the product/service	5.945	1.259	*0.892*		
QCOMM3	The company collaborates with the providers to improve the product/service	5.722	1.225	*0.889*		
Quality deployment						
QDEPL1	There is a training program of quality for the employees	5.382	1.615	*0.821*		
QDEPL2	Measurement techniques of the service like the mysterious customer are used	4.803	2.128	*0.801*		
QDEPL3	Statistical techniques for the improvement of the management are used	5.634	1.512	*0.800*		
Quality performance						
QOPER1	Operational costs have been reduced	4.955	1.494	0.170	0.194	*0.815*
QOPER2	Waste costs have been reduced	5.066	1.410	0.210	0.307	*0.763*
QOPER3	Maintenance costs have been reduced	5.120	1.500	0.247	0.066	*0.784*
QEMPL1	Safety in the workplace has been improved	5.602	1.383	*0.762*	0.248	0.252
QEMPL2	Increase in organizational learning among employees	5.504	1.381	*0.781*	0.340	0.244
QEMPL3	Employees are more autonomous in their work	5.430	1.455	*0.786*	0.314	0.219
QCUST1	Customers are more satisfied with the service because complaints and claims have both been reduced	5.601	1.391	0.212	*0.828*	0.188
QCUST2	Customers repurchase more frequently than before	5.364	1.527	0.324	*0.788*	0.165
QCUST3	Word-of-mouth regarding the service quality has attracted new customers	5.572	1.395	0.362	*0.703*	0.220
Firm performance						
PERF1	The company's image has been improved	5.695	1.387	*0.844*		
PERF2	The customer satisfaction level is higher than that of competitors	5.541	1.316	*0.910*		
PERF3	The employee satisfaction level is higher than that of competitors	5.442	1.442	*0.884*		
PERF4	The ability to maintain a market presence in times of crisis is greater	5.517	1.331	*0.873*		
PERF5	Sales have increased more than those of competitors	5.183	1.435	*0.761*		

Table AI.

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