



# Impact of service quality and environmental practices on hotel companies: An empirical approach

Jordi Perramon<sup>b</sup>, Marc Oliveras-Villanueva<sup>a,b,\*</sup>, Josep Llach<sup>a,b</sup>

<sup>a</sup> Departament d'Organització, Gestió Empresarial i Disseny de Producte, Universitat de Girona, 17004 Girona, Spain

<sup>b</sup> Accounting and Finance Department, UPF Barcelona School of Management, 08008 Barcelona, Spain

## ARTICLE INFO

### Keywords:

Hospitality  
Quality management practices  
Environmental management practices  
Financial performance  
Competitiveness  
Resource-based view

## ABSTRACT

Interest in sustainability and service quality practices in hospitality is increasing in professional and academic communities. Most of the existing literature about hotel companies is focused on a single practice at a time and does not combine service quality and environmental practices in the same study. Drawing upon the resource-based view theory of the firm, this study investigates the effects of service quality and environmental practices on the competitiveness and financial performance of hotels. The research population consisted of 148 hotel managers from Catalonia. The impacts between the dimensions were analysed using structural equation modelling. The investigation revealed that there is a positive impact on the financial performance and competitiveness of the hotels that have adopted these practices. A correlation between service quality and environmental practices was also demonstrated. The implications and recommendations stemming from the research are exposed.

## 1. Introduction

Issues related to pollution, energy consumption, and the reduction of waste, among other practices connected to environmental protection, are nowadays an important area of academic research (Li et al., 2019; Stavropoulos et al., 2018). The tourism sector has come to represent 8 % of greenhouse gas emissions (Lenzen et al., 2018), a perturbing fact which until few years ago did not take on such importance because the impacts of this sector were divided between multiple service suppliers, making both the impacts and liabilities difficult to measure (El Dief and Font, 2010; González-Benito and González-Benito, 2006).

However, the growing urgency of sustainability also affects the tourism sector. For some years there has been growing concern about the negative effects of tourism development, leading to companies being blamed for the practices they employ that have an environmental and social impact on the tourism sector (Alonso-Almeida et al., 2018; Camilleri, 2014; Kornilaki and Font, 2019), and explaining why companies are increasingly trying to become more sustainable (Bini et al., 2018; Figge et al., 2002; Lo and Sheu, 2007). Although this may appear to be something new, principles of sustainability started to be incorporated into the hospitality and tourism sector at the beginning of the nineties (Legrand et al., 2013). Since then it has been one of the most

imperative issues as much on a local level as on an international level (Alonso-Almeida et al., 2018), as confirmed by the UN General Assembly (UN, 2015).

These practices and concern about sustainability affect one of the key factors of the sector, the management of service quality practices (QMPs) (Babu et al., 2018; Slevitch et al., 2013; Wikhamn, 2019), which impacts positively on consumers (Kassinis and Soteriou, 2015; Slevitch et al., 2013). There are other studies that likewise determine that the implementation of QMPs has a positive impact, assisting with the implementation of environmental practices. (Hamdoun et al., 2018; Llach et al., 2013; Pereira-Moliner et al., 2012; Pipatprapa et al., 2017; Teixeira et al., 2019; Yang and Kang, 2019).

These two key factors, QMPs and environmental practices management (EMPs), have aroused significant research interest because they have been recognized as factors that have a positive influence on company competitiveness (Bernardo et al., 2015; Llach et al., 2013; Prajogo et al., 2012; Sun et al., 2009). To this effect, it is certain that QMPs significantly benefit the promotion and development of EMPs (Yang and Kang, 2019).

Regarding previous research on these two factors in the tourism sector, studies have been conducted on their positive impact on both the competitiveness and financial performance of QMPs (Alonso-Almeida

\* Corresponding author at: Departament d'Organització, Gestió Empresarial i Disseny de Producte, Universitat de Girona, 17004 Girona, Spain.  
E-mail addresses: [jordi.perramon@upf.bsm.edu](mailto:jordi.perramon@upf.bsm.edu) (J. Perramon), [marc.oliveras@upf.edu](mailto:marc.oliveras@upf.edu) (M. Oliveras-Villanueva), [josep.llach@udg.edu](mailto:josep.llach@udg.edu) (J. Llach).

et al., 2012; Bagur-Femenías et al., 2019; Mmutle and Shonhe, 2017; Rodríguez Antón et al., 2011; Rubio-Andrada et al., 2011) and EMPs (Gürlek et al., 2017; Kassinis and Soteriou, 2015; Perramon et al., 2014; Rodríguez-Antón and Alonso-Almeida, 2011). Regarding hotels, the literature indicates that their behaviour with respect to these factors is determined by the environment in which they operate (Fernández-Robin et al., 2019) and by business size (Buffa et al., 2018; Del Mar Alonso-Almeida and Rodríguez-Antón, 2011; Doh et al., 2017), differentiating by business type (Bagur-Femenías et al., 2013; del Alonso-Almeida et al., 2015; Rodríguez-Antón et al., 2012), category (Del Mar Alonso-Almeida and Rodríguez-Antón, 2011; Rodríguez-Antón et al., 2012), hotel ecological characteristics (Best and Thapa, 2013; Garay and Font, 2013), and type of traveller (Alonso-Almeida et al., 2012; Lee and Park, 2009).

In recent years, some studies have started to combine QMPs and EMPs, but only in small restaurants subsectors in specific regions and without analysing the correlation of the factors (Alonso-Almeida et al., 2018; Cheng et al., 2019; Llach et al., 2013). Regarding the small restaurant subsector, its characteristics and effects are different from those in the hotel subsector.

Hence, this study contributes to analyzing the correlation of QMPs and EMPs in the hotel subsector, responding to the call expressed by various authors (e.g., Lucas, 2010) to undertake specific studies to better understand the relationship between management practices and performance in particular industries.

The previous literature also determines that more research is needed because of the importance of examining and studying each case in a particular way. Due to different kinds of business environments, companies develop different QMPs and EMPs at different degrees of implementation and with different results on key factors of the company, including competitiveness and financial performance.

Hotel companies have been selected from the tourism sector, considering that previous studies (Bagur-Femenías et al., 2019) have established a stronger positive relation with quality factors in this sector than in other subsectors. In this regard, and as some authors determine, specific subsectors need to be analyzed as there may be different results or there could be bias. (Agyeiwaah, 2019; Alonso-Almeida et al., 2018; Garay and Font, 2013; Llach et al., 2013).

Therefore, while this research indicates the contribution of these practices to performance, there is still much to discover about the combined effect of these practices on achieving business goals within the hotel subsector. This study contributes to this research gap. The study purpose is to investigate the combined effect of quality management practices and environmental management practices on firm goals to achieve competitiveness and business financial performance.

The selected environment is Catalonia (Spain), because it is the country's leading region in terms of number of tourists, receiving 13.6 million visitors, or 23.5% of the total number of tourists coming to Spain (INE, 2019). As detailed later, Catalonia is one of the leading areas in the world in terms of tourism, with a well consolidated market, making it a benchmark for other tourist destinations.

The results may help managers to decide what strategy to follow when implementing practices to improve competitiveness and financial performance. They may also be useful for policymakers to encourage the implementation of quality and environmental practices via public policies, which will positively impact on society.

The paper is divided into 6 sections. In Section 1, we review the theoretical background to complete the introduction to the topic studied. Section 2 develops a discussion of the different theoretical arguments between EMPs and QMPs and the different relationships with competitiveness and financial performance. Section 3 addresses the empirical design of the present study. Section 4 presents the results and quantitative analysis. Section 5 shows the findings of the study. And last, Section 6 addresses the different conclusions found in the research.

## 2. Theoretical background and hypotheses development

Based on the assumption that resources are heterogeneous among firms and differences in resource endowments can exist and endure over time, the resource-based view (RBV) theory was initially proposed by Barney (1991). The RBV argues how an organization can achieve competitive advantage by developing valuable, rare, inimitable and non-substitutable resources and capabilities, which are considered the basis for unique strategies, processes and structural formation (Barney, 2001). The RBV suggests that the extent to which firms effectively manage, use and develop their internal resources will help them achieve higher performance (Kryscynski et al., 2021).

The bundle of resources that a firm possesses can be classified as tangible and non-tangible resources (Chelangat, 2022). Quality and environmental management practices can be an example of tangible organizational resources. Therefore, the uniqueness of a firm should lie in its ability to combine these resources to develop potential strategies that will eventually lead to competitive advantage and in turn to higher performance.

### 2.1. Relationship between EMPs and QMPs

According to the RBV, the factors QMPs and EMPs are considered internal resources that provide firms with combined competitive advantages, which explains why they have captured the attention of researchers (Prajogo et al., 2012; Sun et al., 2009). The relationship between the two resources has been studied from different perspectives. Some studies have concluded that creating good QMPs promotes good EMPs, resulting in a positive effect on the development of the company (Bernardo et al., 2015; Llach et al., 2013). Apart from this positive effect, other recent studies also state that QMPs have a direct positive relationship with and are facilitators for implementing pertinent EMPs (Hamdoun et al., 2018; Llach et al., 2013; Pereira-Moliner et al., 2012; Pipatprapa et al., 2017; Teixeira et al., 2019; Yang and Kang, 2019). However, one study determined that some quality management practices should be investigated in greater depth to determine their effect on EMPs (Allur et al., 2018). In this regard, the effect on QMPs when aiming to implement good EMPs in the company to improve quality, productivity, and cost reduction should also be studied (Li et al., 2018).

Some studies have in fact analysed the contrary effect, that of EMPs on the quality of the services. Environmental practices and factors, including tangible elements, intangible elements, organizational behaviour, resource efficiency, and organic food (Bastić and Gojčić, 2012; Blesic et al., 2011; Kassinis and Soteriou, 2015; Metaxas et al., 2019), have a direct, positive effect on the quality of the services of a hospitality company. Other studies also conclude that EMPs affect customer satisfaction, loyalty, and the perception of quality, thus improving the perception of the quality of the services (Babu et al., 2018; Slevitch et al., 2013; Wikhamn, 2019).

Based on the above literature, the relationship between quality and environmental management practices is an important issue for both academics and professionals (Molina-Azorín et al., 2015). Therefore, since most previous studies conclude that QMPs have a positive effect on the implementation of EMPs and vice versa, the following hypothesis is proposed, considering a correlation relationship between the two factors:

**H1.** : Hotels that have adopted QMPs are likely to adopt EMPs, and vice versa.

### 2.2. Impact on the competitiveness of QMPs and EMPs

Quality and environmental management is linked to improvements in internal operations and to maintaining the company and its resources (Angell and Klassen, 1999; Yang et al., 2011). In this regard, and grounding the RBV framework, the firms that invest in further

development of their internal organizational resources, such as QMPs or EMPs, will reach sustained competitive advantage (Gürlek and Çemberci, 2020).

QMPs are plans designed by the company that aim to improve products, services, processes, and productivity. The plans and guidelines for QMPs, including process planning, establishing objectives, defining tasks, and assigning managers, help improve the company in terms of efficiency and operating cost reductions (Iyer et al., 2013). Some studies show that there is a positive relationship between QMPs and operational efficiency, cost reduction, quality, flexibility, and company development (Al-Refaie, 2015; Yang et al., 2010, 2011). The introduction of the quality concept to all operations (Gonzalez-García et al., 2019) and the implementation of environmental management practices represent potentially critical sources of competitive advantage in our resource-constrained world (Lucas and Noordewier, 2016).

Similarly, we observe how QMPs can improve not only financial results but also operating results and competitive advantages, thus strengthening the competitiveness of service companies (Dortyol et al., 2014; Mmutle and Shonhe, 2017; Prajogo, 2011). As Jabbour et al. (2014); Pereira-Moliner et al. (2012) point out, QMPs also serve to eliminate defects in organizational processes by seeking to improve their efficiency. In the tourism sector, which is analysed in this article, the most recent studies indicate that an increasing number of companies integrate quality standards and QMPs to improve competitiveness (Alonso-Almeida et al., 2018; Peña-Alonso et al., 2018; Shafiq et al., 2019). For these reasons, the following hypothesis is proposed.

**H2.** : QMPs are likely to have a positive and direct effect on competitiveness.

QMPs can directly affect competitiveness, and the implementation of good EMPs not only has a positive effect on improving competitiveness (Alonso-Almeida et al., 2018) but also generates sustainable activities for a greener economy (Kraus et al., 2017). The reasons for integrating these environmental practices are the attitudes of the manager-owners, their personal values, recognition of environmental problems, the company's reputation, and cost savings (Best and Thapa, 2013; Kornilaki and Font, 2019).

Some years ago, a study by Hitchens et al. (2005) concluded that companies' ability to compete in the market is increasingly affected by its relationship with sustainability. Sustainable practices in hotels impact on society and the economy by affecting the consumption of energy and resources, improving the hotel's image, and generating a competitive advantage by positioning themselves alongside these sustainability policies (Best and Thapa, 2013; Hsiao and Chuang, 2016; Leonidou et al., 2013; Llach et al., 2013; Perramon et al., 2014). Given all these factors, the recommendation, which is transmitted to company managers-operators, is to work to continuously improve sustainable practices because they can positively impact the development of competitiveness (Annunziata et al., 2018; Babu et al., 2018). Given that most studies determine that the integration of EMPs by companies is a key factor and improves competitiveness, the following hypothesis is proposed.

**H3.** : EMPs are likely to have a positive and direct effect on competitiveness.

### 2.3. Impact on the financial performance of EMPs and QMPs

According to Iyer et al. (2013) and as previously mentioned, QMPs are integrated to improve certain aspects of the company, such as the service or the product and productivity, with this improvement helping to develop the company's efficiency and reduce costs. Some studies support this statement, including Al-Refaie (2015), Alonso-Almeida et al. (2018), Peña-Alonso et al. (2018) and Shafiq et al. (2019). More precisely, some studies indicate that there is a positive relationship between QMPs and FP, illustrated by this operational improvement in the

company through implementing QMPs (Yang et al., 2010; Yang and Kang, 2019). Therefore, firms who identify and acquire the appropriate bundle of resources may achieve superior performance (Wernerfelt, 1984).

In the tourism sector, QMPs are being adopted to improve the quality and FP of the company (Alonso-Almeida et al., 2018; Peña-Alonso et al., 2018). Some studies determine that the relationship between QMPs and FP is positive in this sector (Arbelo-Pérez et al., 2017; Llach et al., 2013; Nair and Choudhary, 2016). Nevertheless, the fact that different organizations adopting QMPs can have different results and impacts on FP should be taken into account (Prajogo, 2011). Therefore, the following hypothesis is proposed.

**H4.** : QMPs are likely to have a positive and direct effect on financial performance.

In a tourist market where environmental practices are among the three most important priorities of managers and business owners, the increasingly strong recommendation, according to Agyeiwaah (2019) and Coles et al. (2016), is that they must implement and guide EMPs in the company, not only for social and environmental improvement but also to improve FP (Alonso-Almeida et al., 2018; Annunziata et al., 2018; Bell and Ruhanen, 2016; Jiang et al., 2018).

Several studies confirm that there is a direct and positive relationship between EMPs and FP (de Almeida and de Melo, 2017; Eccles et al., 2014; Grewatsch and Kleindienst, 2017; Zhang et al., 2019), including the most recent research conducted in the tourism sector by Alonso-Almeida et al. (2018). Similarly, and different from previous studies, some authors determined that EMPs have a positive but indirect impact on FP (Gao et al., 2019; Yang and Kang, 2019). In addition, some studies highlight the need to investigate the characteristics of the environment and the tourism sector context in greater depth, including how the sustainable behaviour of the company is affected (Garay et al., 2019; Papagiannakis and Lioukas, 2012), and thus how EMPs are affected. Therefore, the following hypothesis is proposed.

**H5.** : EMPs are likely to have a positive and direct effect on financial performance.

### 2.4. Effect of competitiveness on financial performance

As previously seen, QMPs and EMPs have a positive relationship with competitiveness (Alonso-Almeida et al., 2018; Peña-Alonso et al., 2018; Shafiq et al., 2019). QMPs demonstrate a positive relationship with operational efficiency, reducing costs, improving quality and flexibility, and benefiting the company's development (Dortyol et al., 2014; Mmutle and Shonhe, 2017; Prajogo, 2011). EMPs reduce the consumption of energy and resources through a positive effect and improve the corporate image and sustainability policies to generate a competitive advantage (Best and Thapa, 2013; Hsiao and Chuang, 2016; Leonidou et al., 2013; Llach et al., 2013; Perramon et al., 2014).

However, although all these practices improve competitiveness, we do not see that this competitive advantage guarantees a direct improvement in FP. Some studies on hotels show a positive effect between competitiveness and FP (González-Rodríguez et al., 2018; Turner et al., 2017; Wilke et al., 2019), but these studies have very specific characteristics in terms of the location of the hotels. Nonetheless, the following hypothesis is proposed for validation. (Fig. 1).

**H6.** : Competitiveness is likely to have a positive and direct effect on financial performance.

## 3. Methodology

### 3.1. Sample and method

The data used for the purpose of this paper consist in a sample of 148 hotels from the region of Catalonia (Spain). The sample was conducted

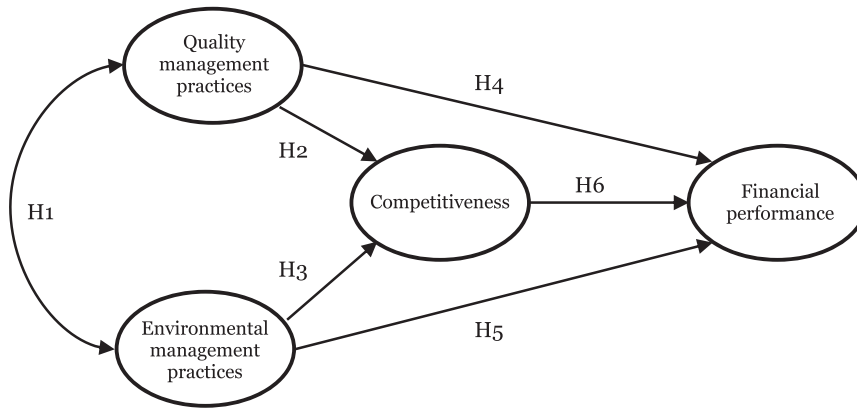


Fig. 1. Working model.

in 2017 and is part of a wider sample used in a previous work by Bagur-Femenías et al. (2019). In their study, the authors investigated differences in behaviour between hotels and restaurants in terms of quality policies. Therefore, in this paper, only the surveys referring to business managers of hotels in Catalonia are included.

The survey was randomly sent to more than 1000 hotels via email and phone call, with the aim of receiving answers from one manager per hotel. This resulted in a valid response rate of approximately 14 %. Notably, the total number of hotel establishments in Catalonia is 2028 (IDESCAT, 2020).

Concerning the profile of the respondents, as shown in Table 1, the vast majority were male (73.6 %) with less than 10 years’ experience (74.1 %) as hotel managers. As for the profile of establishments, there were 87 hotels categorized as less than 4 stars (58.79 %), and the remaining 61 (41.21 %) were more than 4 stars. No bias was detected among the responses gathered from the hotel managers. A Harman’s single-factor test was carried out and, according to the results, the covariance explained by a single factor accounted for 44.59 %, exceeding the commonly accepted cut-off point in the area (25 %) (Ayyagari et al., 2011). Thus, we were certain that there was no bias in the data that was attributable to a unique factor in the collected responses.

The tourism sector in Spain today represents 12 % of national GDP and generates around 13 % of employment. Within the Spanish context, Catalonia is the leading region in terms of number of tourists, received 13.6 million tourist out of the total of 58 million for the country in 2019 (INE, 2019). Also of note, among the NUTS 2 regions of Europe, Spain is the country with the most arrivals in hotel establishments (Eurostat, 2021a,b), with Catalonia placed among the top 5 in terms of number of nights spent in them (Eurostat, 2021a,b). Catalonia is therefore one of the leading areas in the world in terms of tourism, with a well consolidated market, making it a benchmark for other tourist destinations. For these reasons, we strongly believe that the Catalan region is an optimal testing ground for this type of study.

Table 1  
Descriptive statistics of the sample.

Gender	N°	%
Female	39	26,4 %
Male	109	73,6 %
Experience in the hotel (years)		
Less than 10 years	110	74,1 %
More than 10 years	38	25,9 %
Hotel Category		
Less than 4 *	87	58,8 %
More than 4 *	61	41,2 %

3.2. Measurements

The four constructs explored in the study were based on the contents of the previous literature review to ensure face and content validity. Appendix 1 presents the definitions of the key constructs, the sources from where they were adopted, and the distribution and index of consensus of the responses. The index of consensus reveals the weight of the respondent’s perception towards the issue being assessed (Getz, 1994). Index values reveal that global perceptions towards quality and environmental practices and the firm’s competitiveness are highly positive. Notably, the mean and index values for quality practices were somewhat higher than for environmental practices.

The quality management practices, environmental management practices, and competitiveness dimension items were perceptual measurements based on a five-point Likert scale (1 = totally disagree; 5 = totally agree). The items of financial performance dimensions were empirical measurements, also based on a five-point Likert scale (1 = less than 5 %; 2 = 5–10 %; 3 = 10–15 %; 4 = 15–20 %, 5 = higher than 20 %). Following the previous literature (see Appendix 1), we considered financial performance in terms of sales, profits, and hotel occupation.

4. Results

The results are presented in two subsections. First, the validity and reliability of the measurement scales are analysed, and second the working model is analysed using a structural equation model.

4.1. Assessment of the measurement model: Validity and consistency

Table 2 presents the factor loadings on their posited underlying dimensions, the result of the four principal component analyses conducted using varimax rotation. All the loading values were greater than the cut-off level of 0.7, indicating convergent validity. Table 2 reports the internal consistency of the scales using Cronbach’s alpha and Average Variance Extracted (AVE). Since both values are higher than the cut-off levels of 0.7 (Nunnally and Bernstein, 1994) and 0.5 (Fornell and Larcker, 1981), respectively, the validity of the dimensions are demonstrated.

Table 3 also shows an adequate discriminant validity of the dimensions since the square root of average variance extracted (AVE) of each dimension was greater than the Pearson’s correlations in the off-diagonal between two constructs, which were all significant at a p-value < 0.01.

4.2. Assessment of the structural model

Structural equation modelling (SEM) is widely used among social sciences researchers because the models to test are gaining complexity.

**Table 2**  
Measurement model.

	Convergent validity loading	Internal consistency
<b>Quality management practices (QMPs)</b>		
1. All the staff are involved in the creation of the product /service	.792	$\alpha$ :.859 AVE: .707
2. Improvements have been identified in the service provision process	.829	
3. Goal achievement control is conducted, and variations are amended	.855	
4. There is a quality culture with a focus on continuous improvement	.885	
<b>Environmental management practices (EMPs)</b>		
1. The company quantifies environmental savings	.751	$\alpha$ :.735 AVE: .561
2. The company uses ecological factors in marketing campaigns	.711	
3. The company has a long-term environmental strategic focus	.777	
4. The company uses a green criterion in its purchasing policy	.756	
<b>Competitiveness (CO)</b>		
1. Improved market image of the facilities	.871	$\alpha$ :.888 AVE: .751
2. Client satisfaction level is greater than among the competition	.916	
3. Employee satisfaction level is greater than among the competition	.818	
4. Improved capacity to stay in the market in times of crisis	.860	
<b>Financial performance (FP)</b>		
1. Sales have increased in the last two years	.825	$\alpha$ :.780 AVE: .695
2. Profits have increased in the last two years	.839	
3. Occupation has increased in the last two years	.837	

$\alpha$ : Cronbach's alpha  
AVE: average variance extracted

**Table 3**  
Correlation matrix and discriminant validity.

	QMPs	EMPs	CO	FP
QMPs	.840*			
EMPs	.443	.749		
CO	.699	.485	.866	
FP	.596	.557	.484	.833

\* Square root of AVE in the diagonal; Pearson's correlation values in the off diagonal

In fact, nowadays it is the most frequently used approach for causal analysis in the social sciences (Bollen and Pearl, 2013). However, this wide use must not preclude rigorous statistical treatment. In this study, the authors consider that SEM is a suitable method to test the working model for several reasons. The main one is because SEM allows the full model, embodying certain latent dimensions that are connected by one-way arrows, to be analysed. The directionality of these arrows reflects hypotheses bearing on the causal structure of variables in the model (Byrne, 1994). In addition, SEM offers more flexible assumptions compared with other methods, such as allowing both the measurement and structural path of the model to be analysed in one step and non-normal data to be processed (Schumacker and Lomax, 2004), which is the case with the present database.

The software used to perform SEM was EQS software, version 6.4 (Bentler, 1995). Table 4 presents the fit indices of the measurement model, using the maximum likelihood estimation method.

Based on the statistics in Table 4, and following the recommendations proposed by Schermelleh-Engel et al. (2003), who claim that at least three measures must be complied with, these measures of overall

**Table 4**  
Fit indices of the measurement model.

Index*	Value	Cut-off value	Source
Chi-square/degree of freedom	1.07	< 5	(Hair, 1998)
Bentler-Bonett non-normed fit index (BBNNFI)	.990	.90	
Joreskog-Sorbom goodness-of-fit index (GFI)	.898	.90	(Hu and Bentler, 2009)
Comparative fit index (CFI)	.992	.95	(Hu and Bentler, 2009)
Root mean squared error of approximation (RMSEA)	.027	< 0.06	(Hu and Bentler, 2009)

\* Using maximum likelihood estimation method

fitness reflect the explanatory power of the model. Next, Fig. 2 presents the standard solutions of the causal model. On examining the results concerning the specific hypotheses, it can be observed that they are all supported at the 0.05 level except for the relationship between competitiveness and financial performance.

### 5. Discussion of the results

The following section analyses the proposed hypotheses. The results of the statistical analysis validated most of the parts of the previously proposed model. This research focuses on studying the combined effects of QMPs and EMPs and their relationship with factors such as COMP and FP, specifically in the tourism sector of hotel companies.

The first hypothesis proposes a correlation between QMPs and EMPs, and an improvement in QMPs was demonstrated to positively affect EMPs, thus validating previous research (Hamdoun et al., 2018; Llach et al., 2013; Pipatprapa et al., 2017; Teixeira et al., 2019; Yang and Kang, 2019). Moreover, an improvement in EMPs also positively impacted QMPs, thus validating other previous studies (Babu et al., 2018; Bastić and Gojčić, 2012; Blesic et al., 2011; Kassinis and Soteriou, 2015; Metaxas et al., 2019; Slevitch et al., 2013; Wikhamn, 2019).

The present study aimed to analyse the correlation between these two factors, proposing the hypothesis that an improvement in EMPs has a direct positive effect on QMPs and vice versa. The results show a significant positive correlation. Consequently, hypothesis 1 is confirmed.

Previous research has confirmed that QMPs have a link with internal improvements in operations (Angell and Klassen, 1999; Yang et al., 2011), in addition to a positive relationship with operational efficiency, cost reduction, and company development (Al-Refaie, 2015; Yang et al., 2011). In recent studies, QMPs have been demonstrated to improve COMP (Alonso-Almeida et al., 2018; Peña-Alonso et al., 2018; Shafiq et al., 2019). In addition, as validated in hypothesis 1, QMPs are correlated with EMPs. Likewise, previous studies have determined that the implementation and improvement of EMPs has a direct and positive impact on COMP (Alonso-Almeida et al., 2018; Annunziata et al., 2018; Babu et al., 2018; Best and Thapa, 2013; Hsiao and Chuang, 2016; Kornilaki and Font, 2019; Kraus et al., 2017; Leonidou et al., 2013; Llach et al., 2013; Perramon et al., 2014). In line with previous studies, the results of this study confirm a direct positive relationship between QMPs and EMPs and COMP. Therefore, hypotheses H2 and H3 are validated.

In contrast, with respect to QMPs, previous studies have shown a positive relationship with FP based on the operational improvements resulting from the implementation of these practices (Alonso-Almeida et al., 2018; Arbelo-Pérez et al., 2017; Llach et al., 2013; Nair and Choudhary, 2016; Peña-Alonso et al., 2018; Yang and Kang, 2019). The correlation demonstrated in hypothesis 1 indicates that the improvement in QMPs implies an improvement in EMPs. Therefore, and as observed in previous studies, an improvement in EMPs has a direct and positive impact on FP (Alonso-Almeida et al., 2018; de Almeida and de Melo, 2017; Eccles et al., 2014; Grewatsch and Kleindienst, 2017; Zhang et al., 2019). Previous studies are validated through the results obtained

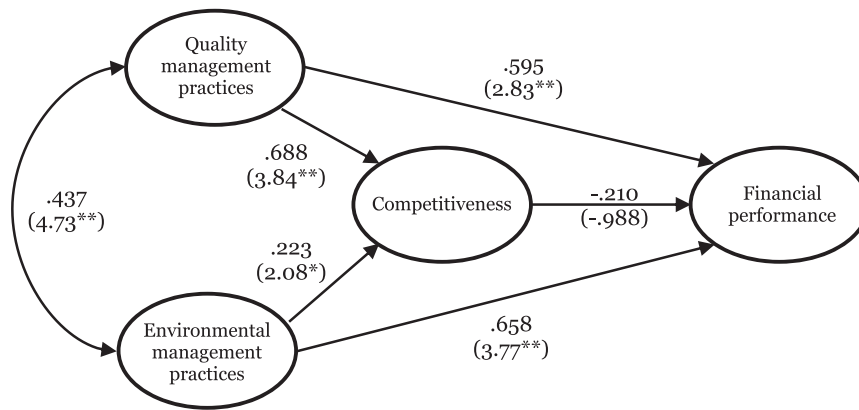


Fig. 2. Standardized solutions of the causal model. Note: Robust statistics in brackets (\*p-value < 0.05; \*\*p-value < 0.01).

in the present investigation, and hypotheses H4 and H5 are confirmed.

Last, although previous studies have shown that COMP has a positive effect on FP (González-Rodríguez et al., 2018; Turner et al., 2017; Wilke et al., 2019), this relationship was not shown to be significant in the present study. Therefore, H6 is rejected. One possible explanation for this relationship is that a reasonable time must elapse between the implementation of the actions to gain competitiveness and their impact on the financial results. Until the company does not amortize the high direct costs of the implementation of these actions, the results are not disclosed in the company’s income statement.

## 6. Conclusions

Previous research has demonstrated that both quality and environmental practices encourage the competitive and financial success of a company. However, few studies have included both factors and an analysis of their correlation. In addition, these previous investigations were carried out in a generic manner for a specific tourism subsector (restaurants), and not hospitality, or for segments of companies differentiated by size.

To analyse the case of the hospitality subsector in a specific territory and based on extant literature, our study uses the resource-based view theoretical lens to examine the hypotheses derived from the linkages between quality and environmental management practices, competitiveness and financial performance. Next, we present the main theoretical and practical conclusions that can be drawn from the present study. Last, limitations and future research are also presented.

### 6.1. Theoretical conclusions

With reference to academics, three main conclusions were reached. The first refers to environmental practices, inspired by the growing trend of practices of this type in companies in recent years. They have a direct correlation with other key practices of the company, as demonstrated in this article with quality practices. According to Arda et al. (2018), the advantages of combining the two practices are vital for developing capabilities to attain competitive advantage. Therefore, the factor of environmental practices and its effect should always be considered in future research on the management and results of the company.

Second, our research also contributes to the RBV, demonstrating that both environmental and service quality practices are relevant to obtain higher competitiveness and financial performance. Therefore, their implementation does not only create a positive image of the market, as pointed out by Jørgensen et al. (2006). The management of service quality practices, which implies improving the processes and eliminating defects for the purpose of continuously improving quality, is observed to have a stronger influence on competitiveness than on environmental practices. In contrast, the management of environmental

practices has a stronger impact on financial performance because it includes practices that impact the reduction of costs, such as energy savings.

The third and last conclusion for academics is the non-significant relationship between competitiveness and financial performance, as indicated by the results. To this effect, it can be argued that competitiveness does not positively influence financial performance because not all practices that are more competitive provide elements for better financial results. This may be because some of the practices to gain competitiveness may have a high direct cost in the short term, causing worse financial results. Therefore, we believe that in the long term financial results could be positively affected by increasing competitiveness, and for this reason H6 is now not supported. However, in this study we asked about the results in a short term of just two years. Considering this, it would be interesting to expand the time horizon and undertake the study again after a few years to collect long-term results and make a possible contribution to the literature on these two factors.

### 6.2. Practical conclusions

The conclusions related to the professional world will now be presented. First, sustainability and, consequently, environmental practices encourage an improvement in quality practices, and vice versa. Their combination strengthens the company’s competitiveness in the market. We recommend that hotel managers and executives implement these practices because, along with proper management, they represent a competitive advantage for the company. Therefore, in line with the RBV, it is of paramount importance to transmit the idea to managers that “competitive advantage is grounded *within* the firm, in its resources” (Lucas, 2010; pp. 554).

The recommendation to implement environmental and quality practices provides the company with resource efficiency, cost reductions, care of environmental factors, improvements in productivity, and continuous improvements in processes and products, which have a positive impact on the company’s development and economic results.

Last, and notable for policymakers, the implementation of these practices has an impact at the business level and a positive impact more globally on society. Concern for the environment and sustainable practices is growing, which is why we recommend the creation and subsequent application of public policies and regulations that facilitate the implementation of environmental and quality practices in companies and that can simultaneously have a beneficial impact on them.

Considering all these conclusions, the study clearly contributes to the literature by providing specific results in a given area, in this case Catalonia, making it a benchmark for other tourist destinations. The contribution fills a gap in the literature on the specific subsector of hotel companies regarding the joint impact of the management of service quality practices and environmental practices on two key business

factors, competitiveness and financial performance. As previously mentioned, the results will help managers to make decisions to improve competitiveness and financial performance through implementing the practices studied. They also indicate that policymakers should encourage the implementation of quality and environmental practices with public policies, which will positively impact on society.

6.3. Limitations and future research

Last, the research has some limitations, including a geographical one, because surveying a given region implies that extrapolating the

results to other regions or countries may be difficult. Nevertheless, the survey is considered representative of the region analysed in the study and, as such, sheds light on the hotel sector in the geographical area.

Drawing on these limitations, new lines of research can be explored by applying the practices in question in other sectors to verify whether the behaviour is the same or similar to that obtained in this study or if, on the contrary, the particular characteristics of each sector prevent the same results from being obtained. In contrast, the application of this methodology could be the origin of another line of research in the same hotel sector in other geographical areas to verify whether the different factors have the same behaviour.

Appendix 1. Definitions, references adapted from and indices

Definition	a.	SD	D	U	A	SA	i.
<b>Quality management practices (QMPs):</b> QMPs refers to a continuous improvement of the services and products, that involves all levels of the company and can be clearly controlled and adapted. Sources: e.g. (Alonso-Almeida et al., 2013; Anttila and Jussila, 2017; Bagur-Femenías et al., 2019; Chou et al., 2018; Conca et al., 2004; Duran et al., 2014; Forgas-Coll et al., 2017; Kaynak, 2003; Lilja et al., 2017; Marimon et al., 2015; Naor et al., 2008; Roger, 1992; Saraph et al., 1989; Wikhamn, 2019)							
All staff is involved in the creation of the product /service	4.18	4	5	10	67	58	0.81
Improvements have been identified in the process of service provision	4.12	5	3	14	70	52	0.79
Goal achievement control is conducted, and variations are amended	4.26	2	6	4	76	60	0.86
There is a quality culture with a focus on continuous improvement	4.27	3	3	9	69	63	0.86
<b>Environmental management practices (EMP):</b> EMP references to all actions that companies take to include environmentally related questions in their strategy. Sources: e.g. (Álvarez Gil et al., 2001; Bagur-Femenías et al., 2015a, 2015b; Bagur-Femenías et al., 2013; Carmona-Moreno et al., 2004; Cheng et al., 2019; Chou et al., 2016; Côté et al., 2006; Fernández-Robin et al., 2019; Molina-Azorín et al., 2009; Prud'homme and Raymond, 2013; Vij, 2016)							
The company quantifies environmental savings	3.97	5	5	18	77	39	0.74
The company uses ecological factors in marketing campaigns	3.84	8	6	23	72	36	0.65
The company has a long-term environmental strategic focus	4.09	2	5	16	78	45	0.79
The company uses a green criterion in purchases policy	4.02	6	4	18	64	47	0.73
<b>Competitiveness (COMP):</b> COMP refers to the differentiation and satisfaction of their stakeholders that the company creates among others of the same sector. Sources: e.g. (Al-Refai, 2015; Bäckström et al., 2016; Bagur-Femenías et al., 2016; Bagur-Femenías et al., 2013; Celma-Benaiges et al., 2016; Espino-Rodríguez and Ramírez-Fierro, 2018; Jones et al., 2016; Leonard and McAdam, 2003; Pereira-Moliner et al., 2012; Rodrigues Quesado et al., 2017; Roger, 1992)							
Improved market image of the facilities	4.07	4	6	19	65	53	0.73
Client satisfaction level is greater than among the competition	4.07	3	6	16	75	47	0.77
Employee satisfaction level is greater than among the competition	4.03	4	6	18	72	47	0.74
Improved capacity of staying in the market in times of crisis	4.01	5	3	20	76	42	0.75
<b>Financial performance (FP):</b> FP analysed the evolution of the most reliable finance variables of the company as profitability net profit and return on equity. Sources: e.g. (Arawati, 2005; Bagur-Femenías et al., 2015a, 2015b; Bagur-Femenías et al., 2013; Das et al., 2000; Douglas and Judge, 2001; Kassinis and Soteriou, 2003; Molina-Azorín et al., 2009; Rodríguez Antón et al., 2011; Rubio-Andrada et al., 2011; Zeng et al., 2010)							
	<b>Mean</b>	<b>&lt; 5%</b>	<b>5–10%</b>	<b>10–15%</b>	<b>15–20%</b>	<b>&gt; 20%</b>	<b>i.</b>
Sales have increased in the last 2 years	4.03	1	10	15	76	42	N/A
Profits have increased in the last 2 years	4.01	1	6	22	73	38	N/A
Hotel occupation has increased in the last 2 years	4.00	4	3	22	76	40	N/A

Note: a. Average out of 5.00; Number of responses: SD= totally disagree; D= disagree; U= uncertain; A= agree; SA= totally agree; i. Index value out of 1.00 (+ or -)

References

Agyeiwaah, E., 2019. Exploring the relevance of sustainability to micro tourism and hospitality accommodation enterprises (MTHAEs): Evidence from home-stay owners. *J. Clean. Prod.* 226, 159–171.

Allur, E., Heras-Saizarbitoria, I., Boiral, O., Testa, F., 2018. Quality and environmental management linkage: a review of the literature. *Sustainability* 10, 4311.

de Almeida, M.F.L., de Melo, M.A.C., 2017. Sociotechnical regimes, technological innovation and corporate sustainability: from principles to action. *Technol. Anal. Strateg. Manag.* 29, 395–413.

Alonso-Almeida, M. del M., Bremser, K., 2013. Strategic responses of the Spanish hospitality sector to the financial crisis. *Int. J. Hosp. Manag.* 32, 141–148.

Alonso-Almeida, M. del M., Rodríguez-Antón, J.M., Rubio-Andrada, L., 2012. Reasons for implementing certified quality systems and impact on performance: an analysis of the hotel industry. *Serv. Ind. J.* 32, 919–936.

Alonso-Almeida, M. del M., Bagur-Femenías, L., Llach, J., Perramon, J., 2018. Sustainability in small tourist businesses: the link between initiatives and performance. *Curr. Issues Tour.* 21, 1–20.

Al-Refai, A., 2015. Effects of human resource management on hotel performance using structural equation modeling. *Comput. Hum. Behav.* 43, 293–303.

Álvarez Gil, M.J., Burgos Jiménez, J., Céspedes Lorente, J.J., 2001. An analysis of environmental management, organizational context and performance of Spanish hotels. *Omega* 29, 457–471.

Angell, L.C., Klassen, R.D., 1999. Integrating environmental issues into the mainstream: an agenda for research in operations management. *J. Oper. Manag.* 17, 575–598.

Annunziata, E., Pucci, T., Frey, M., Zanni, L., 2018. The role of organizational capabilities in attaining corporate sustainability practices and economic performance: evidence from Italian wine industry. *J. Clean. Prod.* 171, 1300–1311.

Anttila, J., Jussila, K., 2017. Understanding quality – conceptualization of the fundamental concepts of quality. *Int. J. Qual. Serv. Sci.* 9, 251–268.

Arawati, A., 2005. The structural linkages between TQM, product quality performance, and business performance: preliminary empirical study in electronics companies. *Singap. Manag. Rev.* 27, 87–105.

Arbelo-Pérez, M., Arbelo, A., Pérez-Gómez, P., 2017. Impact of quality on estimations of hotel efficiency. *Tour. Manag.* 61, 200–208.

Arda, O.A., Bayraktar, E., Tatoglu, E., 2018. How do integrated quality and environmental management practices affect firm performance? Mediating roles of quality performance and environmental proactivity. *Bus. Strateg. Environ.* 64–78.

Ayyagari, R., Grover, V., Purvis, R., 2011. Technostress: technological antecedents and implications. *MIS Q* 35, 831–858.

Babu, D.E., Kaur, A., Rajendran, C., 2018. Sustainability practices in tourism supply chain. *Benchmark Int. J.* 25, 1148–1170.

Bäckström, I., Ingelsson, P., Johansson, C., 2016. How communicative leadership influences co-workers' health – a quality management perspective. *Int. J. Qual. Serv. Sci.* 8, 143–158.

Bagur-Femenías, L., Celma, D., Patau, J., 2016. The adoption of environmental practices in small hotels. voluntary or mandatory? *Empir. Approach Sustain.* 8, 695.

Bagur-Femenías, L., Llach, J., del Mar Alonso-Almeida, M., 2013. Is the adoption of environmental practices a strategic decision for small service companies? *Manag. Decis.* 51, 41–62.

Bagur-Femenías, L., Martí, J., Rocafort, A., 2015a. Impact of sustainable management policies on tourism companies' performance: the case of the metropolitan region of Madrid. *Curr. Issues Tour.* 18, 376–390.

- Bagur-Femenías, L., Perramon, J., Amat, O., 2015b. Impact of quality and environmental investment on business competitiveness and profitability in small service business: the case of travel agencies. *Total Qual. Manag. Bus. Excell.* 26, 840–853.
- Bagur-Femenías, L., Perramon, J., Oliveras-Villanueva, M., 2019. Effects of service quality policies in the tourism sector performance: an empirical analysis of Spanish hotels and restaurants. *Sustainability* 11, 872.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *J. Manag.* 17 (1), 99–126.
- Barney, J.B., 2001. Resource-based theories of competitive advantage: a ten-year retrospective on the resource-based view. *J. Manag.* 27 (6), 643–650.
- Bastič, M., Gojič, S., 2012. Measurement scale for eco-component of hotel service quality. *Int. J. Hosp. Manag.* 31, 1012–1020.
- Bell, C., Ruhanen, L., 2016. The diffusion and adoption of eco-innovations amongst tourism businesses: the role of the social system. *Tour. Recreat. Res.* 41, 291–301.
- Bentler, P.M., 1995. *EQS: Structural Equations Program Manual*. Multivar. Softw. Inc. Bernardo, M., Simon, A., Tarí, J.J., Molina-Azorín, J.F., 2015. Benefits of management systems integration: a literature review. *J. Clean. Prod.* 94, 260–267.
- Best, M.N., Thapa, B., 2013. Motives, facilitators and constraints of environmental management in the Caribbean accommodation sector. *J. Clean. Prod.* 52, 165–175.
- Bini, L., Bellucci, M., Giunta, F., 2018. Integrating sustainability in business model disclosure: evidence from the UK mining industry. *J. Clean. Prod.* 171, 1161–1170.
- Blesic, I., Cerovic, S., Dragicevic, V., 2011. Improving the service quality as a socially responsible activity of hotel companies. *Amfiteatru Econ. J. Acad. Stud. Econ.*
- Bollen, K.A., Pearl, J., 2013. Eight myths about causality and structural equation models. In: *Handbook of Causal Analysis for Social Research*, 15. Springer, Dordrecht, pp. 301–328.
- Buffa, F., Franch, M., Rizio, D., 2018. Environmental management practices for sustainable business models in small and medium sized hotel enterprises. *J. Clean. Prod.* 194, 656–664.
- Byrne, B., 1994. *Structural equation modeling with EQS and EQS/Windows*. Basic Concepts, Applications and Programming. Sage Publications, Thousand Oaks, CA.
- Camilleri, M., 2014. Advancing the sustainable tourism agenda through strategic CSR perspectives. *Tour. Plan. Dev.*
- Carmona-Moreno, E., Céspedes-Lorente, J., de Burgos-Jiménez, J., 2004. Environmental strategies in Spanish hotels: contextual factors and performance. *Serv. Ind. J.* 24, 101–130.
- Celma-Benaiges, M.D., Martínez-García, E., Raya, J., 2016. An analysis of CSR in human resource management practices and its impact on employee job satisfaction in Catalonia, Spain. *Eur. Account. Manag. Rev.* 3, 45–71.
- Chelangat, B., 2022. Quality management practices and organization performance: a critical review of literature. *Eur. J. Manag. Mark. Stud.* 7 (2), 87–97.
- Cheng, C.-C., Chang, Y.-Y., Tsai, M.-C., Chen, C.-T., Tseng, Y.-C., 2019. An evaluation instrument and strategy implications of service attributes in LOHAS restaurants. *Int. J. Contemp. Hosp. Manag.* 31, 194–216.
- Chou, S.-F., Horng, J.-S., Liu, C.-H., Huang, Y.-C., Chung, Y.-C., 2016. Expert concepts of sustainable service innovation in restaurants in Taiwan. *Sustainability* 8, 739.
- Chou, S.-F., Horng, J.-S., Liu, C.-H., Gan, B., 2018. Explicating restaurant performance: the nature and foundations of sustainable service and organizational environment. *Int. J. Hosp. Manag.* 72, 56–66.
- Coles, T., Dinan, C., Warren, N., 2016. Energy practices among small- and medium-sized tourism enterprises: a case of misdirected effort? *J. Clean. Prod.* 111, 399–408.
- Conca, F.J., Llopis, J., Tarí, J.J., 2004. Development of a measure to assess quality management in certified firms. *Eur. J. Oper. Res.* 156, 683–697.
- Côté, R., Booth, A., Louis, B., 2006. Eco-efficiency and SMEs in Nova Scotia, Canada. *J. Clean. Prod.* 14, 542–550.
- Das, A., Handfield, R.B., Calantone, R.J., Ghosh, S., 2000. A contingent view of quality management—the impact of international competition on quality. *Decis. Sci.* 31, 649–690.
- del Alonso-Almeida, M.M., Bagur-Femenías, L., Llach, J., 2015. The adoption of quality management practices and their impact on business performance in small service companies: the case of Spanish travel agencies. *Serv. Bus.* 9, 57–75.
- Del Mar Alonso-Almeida, M., Rodríguez-Antón, J.M., 2011. Organisational behaviour and strategies in the adoption of certified management systems: an analysis of the Spanish hotel industry. *J. Clean. Prod.* 19, 1455–1463.
- Doh, K., Park, S., Kim, D.Y., 2017. Antecedents and consequences of managerial behavior in agritourism. *Tour. Manag.* 61, 511–522.
- Dortyol, I.T., Varinli, I., Kitapci, O., 2014. How do international tourists perceive hotel quality?: An exploratory study of service quality in Antalya tourism region. *Int. J. Contemp. Hosp. Manag.* 26, 470–495.
- Douglas, T.J., Judge, W.Q., 2001. Total quality management implementation and competitive advantage: the role of structural control and exploration. *Acad. Manag. J.* 44, 158–169.
- Duran, I., Bikfalvi, A., Llach, J., 2014. New facets of quality. A multiple case study of green cosmetic manufacturers. *Eur. Account. Manag. Rev.* 1, 44–61.
- Eccles, R.G., Ioannou, I., Serafeim, G., 2014. The impact of corporate sustainability on organizational processes and performance. *Manag. Sci.* 60, 2835–2857.
- El Dief, M., Font, X., 2010. The determinants of hotels' marketing managers' green marketing behaviour. *J. Sustain. Tour.* 18, 157–174.
- Espino-Rodríguez, T., Ramírez-Fierro, J., 2018. The relationship between strategic orientation dimensions and hotel outsourcing and its impact on organizational performance. An application in a tourism destination. *Sustainability* 10, 1769.
- Eurostat, 2021a. Arrivals at tourist accommodation establishments by NUTS 2 regions, [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tour\\_occ\\_arn2&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tour_occ_arn2&lang=en).
- Eurostat, 2021b. Nights spent at tourist accommodation establishments by NUTS 2 regions, <https://ec.europa.eu/eurostat/databrowser/view/tgs00111/default/table?lang=en>.
- Fernández-Robin, C., Celemín-Pedroche, M.S., Santander-Astorga, P., Alonso-Almeida, M. del M., 2019. Green practices in hospitality: a contingency approach. *Sustainability* 11, 3737.
- Figge, F., Hahn, T., Schaltegger, S., Wagner, M., 2002. The sustainability balanced scorecard - linking sustainability management to business strategy. *Bus. Strateg. Environ.* 11, 269–284.
- Forgas-Coll, S., Palau-Saumell, R., Matute, J., Tárrega, S., 2017. How do service quality, experiences and enduring involvement influence tourists' behavior? An empirical study in the Picasso and Miró Museums in Barcelona. *Int. J. Tour. Res.* 19, 246–256.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50.
- Gao, Li, Khan, 2019. A study on the relationship between paradox cognition, green industrial production, and corporate performance. *Sustainability* 11, 6588.
- Garay, L., Font, X., 2013. Corporate social responsibility in tourism small and medium enterprises evidence from Europe and Latin America. *Tour. Manag. Perspect.* 7, 38–46.
- Garay, L., Font, X., Corrons, A., 2019. Sustainability-oriented innovation in tourism: an analysis based on the decomposed theory of planned behavior. *J. Travel Res.* 58, 622–636.
- Getz, D., 1994. Residents' attitudes towards tourism: a longitudinal study in Spey Valley, Scotland. *Tour. Manag.* 15 (4), 247–258.
- González-Benito, J., González-Benito, O., 2006. A review of determinant factors of environmental proactivity. *Bus. Strateg. Environ.* 15, 87–102.
- González-García, S., Gullón, P., Gullón, B., 2019. Bio-compounds production from agri-food wastes under a biorefinery approach: exploring environmental and social sustainability. *Quant. Sustain. Indic. Food Sect.* 25–53.
- González-Rodríguez, M.R., Jiménez-Caballero, J.L., Martín-Samper, R.C., Köseoglu, M. A., Okumus, F., 2018. Revisiting the link between business strategy and performance: evidence from hotels. *Int. J. Hosp. Manag.* 72, 21–31.
- Grewatsch, S., Kleindienst, I., 2017. When does it pay to be good? Moderators and mediators in the corporate sustainability—corporate financial performance relationship: a critical review. *J. Bus. Ethics* 145, 383–416.
- Gürlek, M., Çemberci, M., 2020. Understanding the relationships among knowledge-oriented leadership, knowledge management capacity, innovation performance and organizational performance: a serial mediation analysis. *Kybernetes* 49 (11), 2819–2846.
- Gürlek, M., Düzgün, E., Meydan Uygur, S., 2017. How does corporate social responsibility create customer loyalty? The role of corporate image. *Soc. Responsib. J.* 13, 409–427.
- Hair, J.E., et al., 1998. *Multivariate data analysis* (5th ed.). New Jersey: Prentice-Hall International, Inc.
- Hamdoun, M., Chiappetta Jabbour, C.J., Ben Othman, H., 2018. Knowledge transfer and organizational innovation: impacts of quality and environmental management. *J. Clean. Prod.* 193, 759–770.
- Hitchens, D., Thankappan, S., Trainor, M., Clausen, J., De Marchi, B., 2005. Environmental performance, competitiveness and management of small business in Europe. *R. Dutch Geogr. Soc.* 96, 541–557.
- Hsiao, T.Y., Chuang, C.M., 2016. Creating shared value through implementing green practices for star hotels. *Asia Pac. J. Tour. Res.* 21, 678–696.
- IDESCAT, 2020. *Anuario estadístico de Cataluña. Esablecimientos hoteleros por categorías*. Marcas turísticas 2020.
- INE, 2019. *Cuenta Satélite del Turismo de España (CSTE). Revisión estadística 2019, Serie 2016 – 2018*. Madrid.
- Hu, L., Bentler, P.M., 2009. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal* 6 (1), 1–55.
- Iyer, A., Saranga, H., Seshadri, S., 2013. Effect of quality management systems and total quality management on productivity before and after: empirical evidence from the Indian auto component industry. *Prod. Oper. Manag.* 22, 283–301.
- Jabbour, A.B.L., de S., Jabbour, C.J.C., Latan, H., Teixeira, A.A., de Oliveira, J.H.C., 2014. Quality management, environmental management maturity, green supply chain practices and green performance of Brazilian companies with ISO 14001 certification: Direct and indirect effects. *Transp. Res. Part E Logist. Transp. Rev.* 67, 39–51.
- Jiang, W., Chai, H., Shao, J., Feng, T., 2018. Green entrepreneurial orientation for enhancing firm performance: a dynamic capability perspective. *J. Clean. Prod.* 198, 1311–1323.
- Jones, P., Hillier, D., Comfort, D., 2016. Sustainability in the hospitality industry: some personal reflections on corporate challenges and research agendas. *Int. J. Contemp. Hosp. Manag.*
- Jørgensen, T.H., Remmen, A., Mellado, M.D., 2006. Integrated management systems—three different levels of integration. *J. Clean. Prod.* 14 (8), 713–722.
- Kassinis, G.I., Soteriou, A.C., 2003. Greening the service profit chain: the impact of environmental management practices. *Prod. Oper. Manag.* 12, 386–403.
- Kassinis, G.I., Soteriou, A.C., 2015a. Environmental and quality practices: using a video method to explore their relationship with customer satisfaction in the hotel industry. *Oper. Manag. Res.* 8, 142–156.
- Kaynak, H., 2003. The relationship between total quality management practices and their effects on firm performance. *J. Oper. Manag.* 21, 405–435.
- Kornilaki, M., Font, X., 2019. Normative influences: How socio-cultural and industrial norms influence the adoption of sustainability practices. A grounded theory of Cretan, small tourism firms. *J. Environ. Manag.* 230, 183–189.



- Kraus, S., Burtscher, J., Niemand, T., Roig-Tierno, N., Syrjä, P., 2017. Configurational paths to social performance in SMEs: the interplay of innovation, sustainability, resources and achievement motivation. *Sustainability* 9, 1828.
- Krystynski, D., Coff, R., Campbell, B., 2021. Charting a path between firm-specific incentives and human capital-based competitive advantage". *Strat. Manag. J.* 42 (2), 386–412.
- Lee, S., Park, S.Y., 2009. Do socially responsible activities help hotels and casinos achieve their financial goals? *Int. J. Hosp. Manag.* 28, 105–112.
- Legrand, W., Chen, J.S., Sloan, P., 2013. Sustainability in the Hospitality Industry: Principles of sustainable operations - Willy Legrand, Philip Sloan, Joseph S. Chen - Google Libres, second ed. Routledge, London.
- Lenzen, M., Sun, Y.Y., Faturay, F., Ting, Y.P., Geschke, A., Malik, A., 2018. The carbon footprint of global tourism. *Nat. Clim. Chang.* 8, 522–528.
- Leonard, D., McAdam, R., 2003. An evaluative framework for TQM dynamics in organisations. *Int. J. Oper. Prod. Manag.* 23, 652–677.
- Leonidou, L.C., Leonidou, C.N., Fotiadis, T.A., Zeriti, A., 2013. Resources and capabilities as drivers of hotel environmental marketing strategy: Implications for competitive advantage and performance. *Tour. Manag.* 35, 94–110.
- Li, C., Wu, K., Gao, X., 2019. Manufacturing industry agglomeration and spatial clustering: evidence from Hebei Province, China. *Environ. Dev. Sustain* 22, 2941–2965.
- Li, D., Zhao, Y., Zhang, L., Chen, X., Cao, C., 2018. Impact of quality management on green innovation. *J. Clean. Prod.* 170, 462–470.
- Lilja, J., Hansen, D., Fredrikson, J., Richardsson, D., 2017. Is innovation the future of quality management? *Int. J. Qual. Serv. Sci.* 9, 232–240.
- Llach, J., Perramon, J., Alonso-Almeida, M.D.M., Bagur-Femenías, L., 2013. Joint impact of quality and environmental practices on firm performance in small service businesses: an empirical study of restaurants. *J. Clean. Prod.* 44, 96–104.
- Lo, S.-F., Sheu, H.-J., 2007. Is corporate sustainability a value-increasing strategy for business? *Corp. Gov. Int. Rev.* 15, 345–358.
- Lucas, M.T., 2010. Understanding environmental management practices: integrating views from strategic management and ecological economics. *Bus. Strat. Environ.* 19, 543–556.
- Lucas, M.T., Noordewier, T.G., 2016. Environmental management practices and firm financial performance: the moderating effect of industry pollution-related factors. *Int. J. Prod. Econ.* 175, 24–34.
- Marimon, F., Alonso-Almeida, M. del M., Bernardo, M., Llach, J., 2015. Is it possible to retain customer loyalty when a service has failed? *Hum. Factors Ergon. Manuf. Serv. Ind.* 25, 599–613.
- Metaxas, I.N., Chatzoglou, P.D., Koulouriotis, D.E., 2019. Proposing a new modus operandi for sustainable business excellence: the case of Greek hospitality industry. *Total Qual. Manag. Bus. Excell.* 30, 499–524.
- Mmutle, T., Shonhe, L., 2017. Customers' perception of service quality and its impact on reputation in the hospitality industry. *African J. Hosp. Tour. Leis.*
- Molina-Azorín, J.F., Claver-Cortés, E., Pereira-Moliner, J., Tarí, J.J., 2009. Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry. *J. Clean. Prod.* 17, 516–524.
- Molina-Azorín, J.F., Tarí, J.J., Pereira-Moliner, J., López-Gamero, M.D., Pertusa-Ortega, E.M., 2015. The effects of quality and environmental management on competitive advantage: a mixed methods study in the hotel industry. *Tour. Manag.* 50, 41–54.
- Nair, G.K., Choudhary, N., 2016. The impact of service quality on business performance in Qatar-based hotels: an empirical study. *J. Hosp. Financ. Manag.* 24, 47–67.
- Naor, M., Goldstein, S.M., Linderman, K.W., Schroeder, R.G., 2008. The role of culture as driver of quality management and performance: infrastructure versus core quality practices\*. *Decis. Sci.* 39, 671–702.
- Nunnally, J., Bernstein, I., 1994. *Psychometric Theory*. McGraw-Hill, New York, USA.
- Papagiannakis, G., Lioukas, S., 2012. Values, attitudes and perceptions of managers as predictors of corporate environmental responsiveness. *J. Environ. Manag.* 100, 41–51.
- Peña-Alonso, C., Ariza, E., Hernández-Calvento, L., Pérez-Chacón, E., 2018. Exploring multi-dimensional recreational quality of beach socio-ecological systems in the Canary Islands (Spain). *Tour. Manag.* 64, 303–313.
- Pereira-Moliner, J., Claver-Cortés, E., Molina-Azorín, J.F., José Tarí, J., 2012. Quality management, environmental management and firm performance: direct and mediating effects in the hotel industry. *J. Clean. Prod.* 37, 82–92.
- Perramon, J., Alonso-Almeida, M. del M., Llach, J., Bagur-Femenías, L., 2014. Green practices in restaurants: impact on firm performance. *Oper. Manag. Res.* 7, 2–12.
- Pipatprapa, A., Huang, H.-H., Huang, C.-H., 2017. The role of quality management & innovativeness on green performance. *Corp. Soc. Responsib. Environ. Manag.* 24, 249–260.
- Prajogo, D., Tang, A.K.Y., Lai, K.H., 2012. Do firms get what they want from ISO 14001 adoption?: an Australian perspective. *J. Clean. Prod.* 33, 117–126.
- Prajogo, D.I., 2011. The roles of firms' motives in affecting the outcomes of ISO 9000 adoption. *Int. J. Oper. Prod. Manag.* 31, 78–100.
- Prud'homme, B., Raymond, L., 2013. Sustainable development practices in the hospitality industry: an empirical study of their impact on customer satisfaction and intentions. *Int. J. Hosp. Manag.* 34, 116–126.
- Rodríguez Quesado, P., Fernandes Branco, J.C., Rodrigues, F.J., 2017. Proposal to implement the balanced scorecard in a non-profit organization. *Eur. Account. Manag. Rev.* 4, 49–74.
- Rodríguez Antón, J.M., Alonso Almeida, M. del M., Rubio Andrada, L., 2011. Shedding more light on the impacts of quality certified systems in small service enterprises: a multidimensional analysis. *Afr. J. Bus. Excell.* 5, 7911–7922.
- Rodríguez-Antón, J.M., Alonso-Almeida, M.M., 2011. Quality certification systems and their impact on employee satisfaction in services with high levels of customer contact. *Total Qual. Manag. Bus. Excell.* 22, 145–157.
- Rodríguez-Antón, J.M., Del Mar Alonso-Almeida, M., Celemin, M.S., Rubio, L., 2012. Use of different sustainability management systems in the hospitality industry. The case of Spanish hotels. *J. Clean. Prod.* 22, 76–84.
- Roger, J.C., 1992. Quality control at avant hotels the debut of BS 5750. *Serv. Ind. J.* 12, 17–33.
- Rubio-Andrada, L., Del Mar Alonso-Almeida, M., Rodríguez-Antón, J.M., 2011. Motivations and impacts in the firm and stakeholders of quality certification: evidence from small- and medium-sized service enterprises. *Total Qual. Manag. Bus. Excell.* 22, 833–852.
- Saraph, J.V., Benson, P.G., Schroeder, R.G., 1989. An instrument for measuring the critical factors of quality management. *Decis. Sci.* 20, 810–829.
- Schermele-Engel, K., Moosbrugger, H., Müller, H., 2003. Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. *Psychol. Res.* 8 (No. 2), 23–74.
- Schumacker, R., Lomax, R., 2004. *A beginner's guide to structural equation modelin*, second ed. Lawrence Erlbaum Associates, Inc., Mahwah, NJ.
- Shafiq, M., Lasrado, F., Hafeez, K., 2019. The effect of TQM on organisational performance: empirical evidence from the textile sector of a developing country using SEM. *Total Qual. Manag. Bus. Excell.* 30, 31–52.
- Slevitch, L., Mathe, K., Karpova, E., Scott-Halsell, S., 2013. "Green" attributes and customer satisfaction. *Int. J. Contemp. Hosp. Manag.* 25, 802–822.
- Stavropoulos, S., Wall, R., Xu, Y., 2018. Environmental regulations and industrial competitiveness: evidence from China. *Appl. Econ.* 50, 1378–1394.
- Sun, H., Zhao, Y., Yau, H.K., 2009. The relationship between quality management and the speed of new product development. *TQM J.* 21, 576–588.
- Teixeira, A.A., Jabbour, C.J.C., Latan, H., de Oliveira, J.H.C., Freitas, W.R., de, S., Teixeira, T.B., 2019. The importance of quality management for the effectiveness of environmental management: evidence from companies located in Brazil. *Total Qual. Manag. Bus. Excell.* 30, 1338–1349.
- Turner, M.J., Way, S.A., Hodari, D., Wittman, W., 2017. Hotel property performance: the role of strategic management accounting. *Int. J. Hosp. Manag.* 63, 33–43.
- UN, 2015. *United Nations General Assembly. A/C.2/70/L.5/Rev.1*. URL (<https://undocs.org/A/C.2/70/L.5/Rev.1>) (accessed 8.30.21).
- Vij, M., 2016. The cost competitiveness, competitiveness and sustainability of the hospitality industry in India. *Worldw. Hosp. Tour. Themes* 8, 432–443.
- Wernerfelt, B., 1984. A resource-based view of the firm. *Strat. Manag. J.* 5, 171–180.
- Wikhamn, W., 2019. Innovation, sustainable HRM and customer satisfaction. *Int. J. Hosp. Manag.* 76, 102–110.
- Wilke, E.P., Costa, B.K., Freire, O.B.D.L., Ferreira, M.P., 2019. Interorganizational cooperation in tourist destination: building performance in the hotel industry. *Tour. Manag.* 72, 340–351.
- Yang, C.L., Lin, S.P., Chan, Y. hui, Sheu, C., 2010. Mediated effect of environmental management on manufacturing competitiveness: an empirical study. *Int. J. Prod. Econ.* 123, 210–220.
- Yang, M.G., Kang, M., 2019. An integrated framework of mimetic pressures, quality and environmental management, and firm performances. *Prod. Plan. Control.*
- Yang, M.G., Hong, P., Modi, S.B., 2011. Impact of lean manufacturing and environmental management on business performance: an empirical study of manufacturing firms. *Int. J. Prod. Econ.* 129, 251–261.
- Zeng, S.X., Meng, X.H., Yin, H.T., Tam, C.M., Sun, L., 2010. Impact of cleaner production on business performance. *J. Clean. Prod.* 18, 975–983.
- Zhang, Y., Khan, U., Lee, S., Salik, M., 2019. The influence of management innovation and technological innovation on organization performance. A mediating role of sustainability. *Sustainability* 11, 495.