Impact of quality and environmental investment on business competitiveness and profitability: The case of travel agencies

Llorenç Bagur-Femenías
Barcelona School of Management-Universitat Pompeu Fabra
Edifici Balmes: Balmes, 132 - 08008 Barcelona (España)
llorenc.bagur@bsm.upf.edu[1]

Jordi Perramon
Barcelona School of Management-Universitat Pompeu Fabra
Edifici Balmes: Balmes, 132 - 08008 Barcelona(España)
jordi.perramon@bsm.upf.edu

Oriol Amat
Universitat Pompeu Fabra
Facultat de Ciències Econòmiques i Empresarials
Departament d'Economia i Empresa
08005 Barcelona (España)
oriol.amat@upf.edu

[1] Corresponding author. Telephone number (0034) 93 542 18 00. Fax number (0034) 93 542 18 08

ABSTRACT:

Few studies have examined the combined effect of implementing quality and environmental management within the service sector. This void is more evident if we focus on segments in which small businesses predominate and even more so if we look for highly competitive sectors that are very variable and that have high business mortality. After analysing 198 surveys of Spanish travel agency managers using structural equations, it can be concluded that practices of quality management have a significant direct impact on business competitiveness but not on this business's financial results, at least directly. However, there is a significant relationship between environmental management practices and economic benefits. This article suggests that commitment to quality and the environment can allow small businesses in the service sector to have a competitive advantage that will separate surviving and ceased operations, particularly in sectors that are rapidly evolving and highly competitive.

Keywords: Quality management, Environmental management, Firm performance and Travel agencies.

1. Introduction

The adoption of quality management practices (QMP) and environmental management practices (EMP) and their impact on business finances have been previously studied by many authors. However, the majority of studies have focused on the impact of each of these variables on the business itself (Llach et al., 2013). In contrast, there is little empirical research that analyses the impact of the implementation of both QMP and EMP in the service sector (with the exception of the hotel industry), especially if the research aims to explore a tourism subsector where small businesses, understood as those that have less than 50 employees as defined in Eurostat (2008), predominate.

Another important aspect that adds value to the present study is its focus on the travel agencies sector. This sector is one of the segments with high business mortality in recent years. More specifically, in Spain and using as a source the last year recorded in the Iberian Balance-sheet Analysis System (SABI, based on its initials in Spanish) (accessed 13/3/2013), there has been a reduction in the number of companies from 4,658 in 2010 to 4,074 in 2011, a loss of 548 companies, or 12.53% of the sector, in one year. This tendency is continuing during 2012 and 2013. According to Amadeus, a technology provider for the tourism sector, the number of points of sale connected to the system amounted to 6,075, 33.4% less than the 9,127 that existed at the end of 2007 (Amadeus, 2013). The economic crisis and the unstoppable development of new sales channels, such as the Internet, has forced these small companies to either evolve or disappear (Casielles et al., 2009). There has been a shift from a local business model based on client trust to a global business where the customer has large amounts of information available to compare and where price is a key variable in the purchase decision.

There are many reasons in addition to those mentioned above that justify the completion of this study. First, there is a lack of analyses including environmental variables in the services sector (Bagur-Femenías et al., 2013), with the exception of the hotel segment. The majority of environmental studies are based on companies belonging to the most polluting sectors, making the industrial segment considerably more investigated than the services sector (Bernardini Seiffert, 2008). Nevertheless, as explained by Ilomaki and Melanen (2001), the adoption of an environmental management system is a topic that concerns all businesses in the tourism sector, including travel agencies. Second, there is a need for quantitative research in different sectors in which small businesses predominate (Lee, 2009) and, third, for studies focused on small businesses to aid the decision-making process in the tourism sector, as identified by Kassinis and Soteriou in 2003 and by Hillary in 2004.

Therefore, it has been considered relevant to study the companies that have managed to survive in a sector that has changed drastically in the past years. This article intends to analyse empirically if investing in quality and in the environment can create a difference between surviving and disappearing for companies in highly competitive sectors that are continually evolving.

This article provides several contributions to this research field. First, the present work highlights the main QMP adopted by the studied travel agencies and their impact on the company's results, either directly or indirectly through EMP or an improvement in the company's competitiveness. Second, this study facilitates the understanding of the effects that a small business experiences after adopting environmental measures. Third, the present research helps in understanding the impact of adopting both QMP and EMP on a company's *performance* measured in terms of enhanced competitiveness (image, client satisfaction, employee performance, etc.) and financial improvement. Fourth, this

study focuses on a sector in which the combined impact of QMP and EMP in business performance has not been investigated, although the effects of QMP and EMP have been analysed separately. Fifth, considering that the present research is concentrated on a sector with high business mortality, research on companies that are still operating can demonstrate whether investing in quality and the environment is a good strategy for differentiation and survival in complex and highly competitive sectors.

The remainder of the article is structured as follows. Section 2 discusses the theoretical arguments related to the adoption of QMP and EMP and their relationship with business performance. Section 3 describes the methodology used in the empirical study. Section 4 presents the quantitative analysis. This article ends with the results analysed in section 5 and the conclusions observed in section 6, including interesting recommendations for future investigators and professionals.

2. Literature review

2.1. Effect of the QMP on the implementation of EMP

As mentioned before, there is limited empirical research that analyses the impact of implementing both QMP and EMP in a corporation. There appears to be a consensus that the existence of quality practices facilitates the adoption of environmental measures (Llach et al., 2013; Wiengarten and Pagell, 2012; Kuei and Lu, 2012) and that the application of both sustainability practices in the tourism sector is becoming increasingly more common (Casadesus et al., 2010; Rodriguez-Antón et al., 2012). In an empirical study of the hotel industry, Pereira-Moliner et al. (2012) reinforce the idea that quality facilitates the implementation of environmental practices by eliminating duality, reducing waste and simplifying processes.

In today's global world, the main challenge for managers should be to focus the organization for operational excellence, high quality, low cost and fast response to customer demand in order to generate wealth creation from revenues in the future (Dervitsiotis, 2012). In this sense, Dervitsiotis (2011) pointed that in complex environments, QMPs are needed but are not sufficient to get competitive advantages by themselves. In the same way Kuei and Lu (2012) argue that QMP facilitate the transformation process needed to adapt the organization to environments where customer demand is continuously changing and where competitors are continuously evolving.

Additionally, some theoretical studies have shown the existence of certain benefits derived from the integration of both systems (Karapetrovic, 2002; Karapetrovic, 2003; Poksinska et al., 2003 and Zutshi and Sohal, 2005), for example, improvement in business efficiency, bureaucracy reduction through the elimination of dichotomy or the alignment of objectives and processes. If we add that both sustainability practices share the same objectives (advancing to a proactive and preventive position as well as building business sustainability) and other factors necessary for their implementation, such as leadership, self-evaluation and continued improvement (Tarí et al., 2010), we can conclude that QMP act as catalysers for the adoption of EMP by facilitating EMP implementation and follow up.

Considering the reasons detailed above, the following hypothesis is proposed:

H1: The adoption of QMP has a positive impact on the implementation of EMP.

2.2. Impact of QMP on business performance

Globalisation and the concomitant increase in competition have turned the adoption of quality practices into key prerequisites for the survival of service companies (Singh et al., 2008). In fact, many studies have analysed the impact of implementing QMP in such organisations (Sadikoglu and Zehir 2010; Climent-Serrano 2010; Rodriguez-Antón et al., 2011; Rubio-Andrada et al., 2011).

Wang (2012) asserts that the use of financial information can help an organization to mitigate the impact of a crisis in the way that it provides information whether and how strategies should be adjusted. In the same article, Wang exposes that detecting key stakeholders' demands is crucial to readapt operations to generate market advantages. In this sense not only financial information is needed, key stakeholders' information is the basis of survival in a highly competitive environment.

However, there is still a void regarding studies related specifically to the services sector, with the exception of a few studies of subsectors in which small businesses are not prevalent, such as banking (Dawson and Patrickson, 1991), higher education (Cruickshank, 2003) and the hotel industry (Arasli, 2002; Tarí et al. 2010 and Alonso-Almeida et al. 2012). Although the majority of studies consider QMP to be key components to the improvement of financial variables in a company, other authors believe that the impact of QMP is small or non-existent. In 2006 in an article published in the Journal of Operations Management, Nair argues that the reduction of expenses implies that the adoption of QMP is absorbed by the increase of other costs related to the implementation, control and maintenance of quality.

The authors who claim that QMP improve the economic results of a company argue that the impact that quality has on the company's finances is the result of two related factors, one internal and another external.

First, considering the internal factors, the implementation of quality improves certain internal processes that, despite creating expenses, result in a significant reduction of costs due to a better use of resources and the decrease of processes and tasks that do not add value to the company but do generate cost (Citing the most recent studies: Terlaak and King, 2006; Rubio-Andrada et al., 2011; Rodriguez-Antón et al., 2011; Alonso-Almeida et al., 2012). Second, if we define the external factors as those that have an influence on the business competitiveness, there are several studies asserting that QMP have a positive impact on a company's capacity to remain in the market. More specifically, improvements in employee performance (Testa and Sipe, 2006; Sousa and Aspilwall, 2010; Rodriguez-Antón and Alonso-Almeida, 2011), enhancement of customer satisfaction in relation to the services received (Chen and Kao, 2010) and the ability to attract new clients and improve the company's image (Yee et al., 2008 and 2010) are all effects of quality that improve the competitiveness of a business and its ability to survive in a market during times of crisis.

Continuing with the bibliographic analysis, the following contrasting hypotheses are proposed:

H2: The adoption of QMP has a direct and positive impact on the financial results of a company.

H3: The implementation of QMP has a direct and positive impact on the competitiveness of a company.

2.3. Impact of EMP on business performance

The literature analysed in this section will focus on the services sector, specifically on the tourism segment due to the large number of environmental studies that have been performed. Another reason to limit the analysis lies in the fact that environmental practices significantly differ depending on the type of company. Zeng et al. (2010) argues that environmental practices implemented in the services sector are aimed at reducing expenses through a more rational use of certain scarce resources (water, electricity, etc.). The same authors explain that the majority of service providers choose these types of practices because their implementation requires little investment and measurable economic results can be perceived immediately.

In terms of the tourism sector, the studies focus primarily on the hotel industry, as explained above. One important study conducted by Molina-Azorín et al. (2009) reveals that higher proactivity in environmental practices results in better economic outcomes.

The existing research literature concerning travel agencies and the environment is relatively small. A recent study by Bagur-Femenías et al. (2013) argues that adopting EMP has indirect positive effects on business *performance*. The implementation of environmental practices increases customer satisfaction and the company's positioning and image in addition to improving employee satisfaction as a result of belonging to a company committed to sustainability (Kassinis and Soteriou, 2003).

The following hypotheses are proposed:

H4: The adoption of EMP has a direct and positive impact on the financial results of the company.

H5: The adoption of EMP has a direct and positive impact on the competitiveness of the company.

2.4. Competitiveness versus financial performance

If we consider the current economic environment, business globalisation and the introduction of new technologies and social networks to the markets, it is easy to understand that to survive, companies must become differentiated and competitive. In this sense, EMP and QMP may become the differentiating factor between remaining in the market and disappearing (Russo and Fouts, 1997).

Maintaining competitiveness implies the control of internal and external variables (Wang and Yen, 2012). From the internal perspective, employee performance clearly affects customer satisfaction in the tourism sector (Alonso-Almeida and Rodríguez-Antón, 2011; Alonso-Almeida et al. 2012; Bagur-Femenías et al., 2013). Regarding the external perspective, the literature is more extensive, highlighting two competitive factors: those related to the customer (satisfaction, loyalty or repeat-purchase decisions) and those related to the improvement of the company's image (e.g., Alonso-Almeida, 2012; Bagur-Femenías et al., 2013; Llach et al., 2013; Bernardo et al. 2013).

Based on the available literature, the following hypothesis is proposed:

H6: Competitiveness has a direct and positive impact on the financial results of a company.

As a summary, Figure 1 displays the theoretical model:

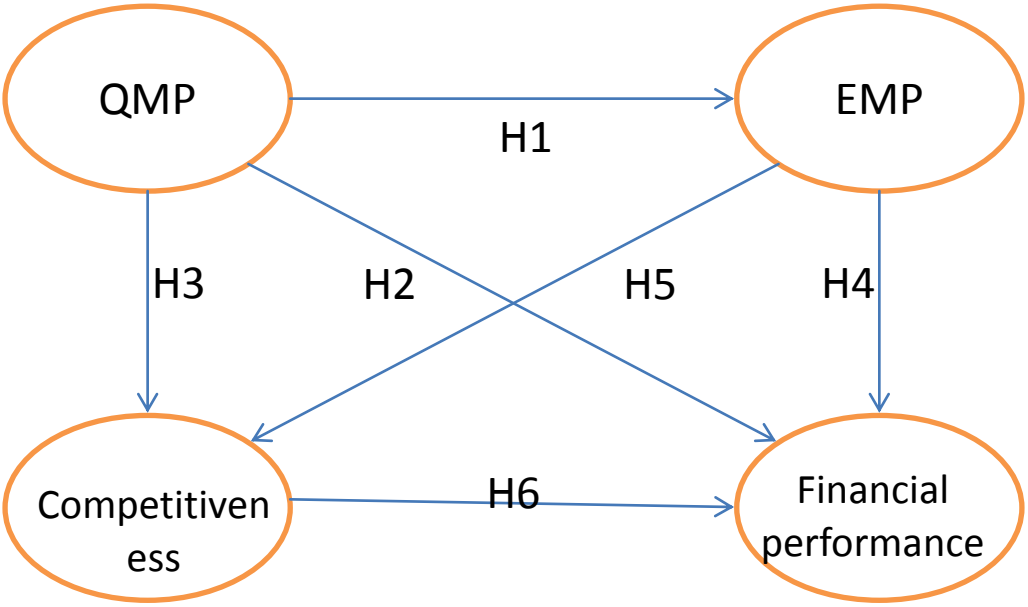


Figure 1: Final model including hypothesis

3. Methodology

3.1. Sample and data collection

The information used in the preparation of this article was obtained from a survey administered between February and March of 2013 to directors of 198 Spanish travel agencies with less than 50 employees. This sample represents 5% of the population. The survey was limited to the travel agencies sector for several reasons that make the analysis of this segment very interesting. First, travel agencies are generally small businesses. Second, travel is a highly competitive market (Lin et al., 2009) in which companies are continually developing new business practices in hopes of gaining customer loyalty or attracting new buyers. Third, the travel industry is a sector where the Internet has noticeably modified the way of doing business (Buhalis and Law, 2008) within a relatively short amount of time.

The questionnaire was divided into three main sections: quality, environment. The survey included a final section asking for descriptive information about the profile of the company (including some financial information).

The profile of the travel agencies that participated in the survey can be observed in Table 1.

Classification		
	Nº	%
Retailers	138	69.69
Wholesalers	7	3.54
Retailer-Wholesaler	53	26.77
Total	198	100.00
Type of company		
Independent	40	20.20
Subsidiary	158	79.80
Total	198	100.00
Years since inception		
< 5 years	87	43.93
> 5 years	112	56.07
Total	198	100.00

Table 1: Company profiles included in the sample.

3.2. Measures

Four concepts have been analysed in this article, in the context of the studied bibliography, with the purpose of contrasting the proposed hypotheses.

The first construct was called quality management practices (QMP). The variables used to measure the adoption of quality practices were upper-management commitment, collaboration with the customer and supplier, service delivery, monitoring objectives and quality culture. The second construct, called environmental management practices (EMP), was measured in terms of four variables: environmental training, environmental marketing, a long-term strategic environmental approach and cost savings.

These two first constructs were measured by the respondents using a 7-point Likert scale, with 1 being "totally disagree" and 7 being "totally agree".

Finally, to assess the impact on business performance of the aforementioned practices, this study uses the measure developed by Camisón (1999) and other authors, such as Pereira-Moliner et al. (2012) or Bagur-Femenías et al. (2013), as the scale of measurement for business performance.

Performance is divided into two dimensions: competitiveness (COMP) and financial performance (FP). COMP has been measured in terms of corporate image and client and employee satisfaction, while FP includes measurements such as increases in benefits, improved market size or sales growth. Both of these dimensions were valued based on 5 percentage-point ranges following the scale proposed by Camisón (1999).

The list of variables used to measure the four constructs as well as their classification and bibliographic references are summarised in Appendix 1.

4. Results

This section has been divided into two parts according to the order of the statistical process followed to validate the proposed model.

The first section includes the exploratory and confirmatory factor analysis for the four constructs suggested. In the second part, structural equation modelling (SEM) was used to test the proposed cause-effect model to demonstrate the explanatory power of the model.

4.1. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)

To evaluate which factors were grouped together in each construct, an explanatory factor analysis (EFA) was performed following the element-retention criteria suggested by Loiacono et al. (2002), who suggested the need for a minimum 0.5 load for each element. Additionally, to confirm the existence of lineal dependency among the variables, the correlation matrix was subjected to Bartlett's test of sphericity. The Kaiser-Meyer-Olkin (KMO) index confirmed that the factor analysis had obtained acceptable results (Visauta, 1998) because it was higher than 0.7 for all the constructs.

Later, a confirmatory factor analysis (CFA) was performed to verify the factorial structures derived from the exploratory analysis. The credibility of the resulting factors was evaluated using Cronbach's alpha. All the constructs presented an alpha higher than 0.7, which is the minimum level required by Carmines and Zeller (1979).

Then, a consistency analysis was performed using reliability indicators. In all the cases, the results confirmed the trustworthiness of the constructs, with a composite reliability coefficient higher than the minimum required of 0.6 (Bagozzi and Yi, 1988).

In the next step, the convergent validity of the model was evaluated following the criteria proposed by Fornell and Larcker (1981), who indicate that both the average variance extracted (AVE) and the elements load should be higher than 0.5. According to the results, both of the requirements were met. Table 2 shows the details of the statistics obtained in the EFA and the CFA.

Table 2. Reliability and convergent validity of the model

Construct	**Code**	**Exploratory factor analysis (EFA)**		**Confirmatory factor analysis (CFA)**
		Loads[1]	**Bartlett's test index Kaiser-Meyer-Olkin**	**Composite reliability tests**
Quality management practices **(QMP)**	**QMP1**	.780	χ^2 (sig.): 497.627 (.000) gl: 10 KMO: .836 % variance: 67.545	α^1: .878 Range α^2: .840 - .866 Range correlations[3]: .660 - .744 AVE[4]: .676 Composite reliability[5]: .912
	QMP2	.812		
	QMP3	.851		
	QMP4	.820		
	QMP5	.845		
Environmental management practices **(EMP)**	**EMP1**	.881	χ^2(sig.): 412.187 (.000) gl: 6 KMO: .833 % variance: 74.541	α^1: .885 Range α^2: .840 - .874 Range correlations[3]: .696 - .784 AVE[4]: .745 Composite reliability[5]: .921
	EMP2	.886		
	EMP3	.860		
	EMP4	.824		
Competitiveness **(COMP)**	**COMP1**	.863	χ^2(sig.): 254.385 (.000) gl: 3 KMO: .718 % variance: 77.164	α^1: .849 Range α^2: .746 - .815 Range correlations[3]: .693 - .771 AVE[4]: .771 Composite reliability[5]: .910
	COMP2	.905		
	COMP3	.866		
Financial performance **(FP)**	**FP1**	.913	χ^2(sig.): 279.373 (.000) gl: 3	α^1: .869 Range α^2: .779 - .881
	FP2	.913		

	FP3	.845	KMO: .714 % variance: 79.357	Range correlations[3]: .675 - .791 AVE[4]: .793 Composite reliability[5]: .920

[1] p-value = 0.01
[2] Cronbach's alpha
[3] Cronbach's alpha range moving one item
[4] Average variance extracted

To conclude the factorial analysis, the constructs underwent a discriminant validity analysis following the recommendations of Fornell and Larcker (1981) using the comparison between the square root of the AVE for each construct and the correlation between the constructs. In all cases, the square root of the AVE was higher than the correlation, therefore confirming the model (see Table 3).

Table 3: Correlation matrix and discriminant validity

	QMP	EMP	COMP	FP
QMP	.822*			
EMP	.194	.863*		
COMP	.671	.248	.878*	
FP	.223	.299	.276	.891*

*Square root of the AVE

4.2. Structural equations

To finalise the statistical analysis, the proposed model was contrasted using the robust method with the EQS 6.1 (structural equations) software. Table 4 presents the key statistics that demonstrate the suitability of the model. In fact, according to Schermelleh-Engel et al. (2003), obtaining three statistics within their recommended values validates the accuracy of the model.

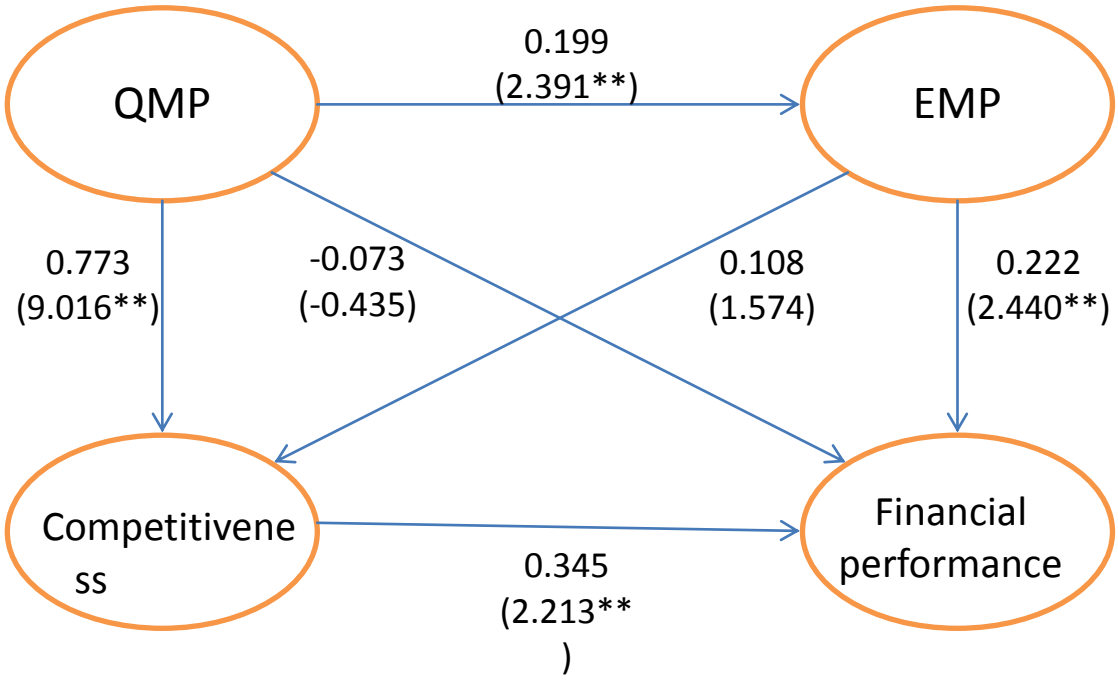
Table 4: Key statistics (EQS)

Statistic	Result	Ideal value
x2 (chi-squared)*	123.1737	Minimum possible
x2/degrees of freedom	1.4663	<3
BB-NFI (Bentler-Bonnet normed fit index)	0.909	>0.8
BB-NNFI (Bentler-Bonnet non-normed fit index)	0.961	>0.9
IFI (Bollen's fit index	0.969	>0.9
CFI (comparative fit index)	0.969	>0.9
RMSEA (root mean square error of approximation)	0.053	<0.06

* Satorra-Bentler scaled chi-squared

In this case, the explicative power of the model is confirmed because all the statistics fall within their ideal values. Figure 2 shows a summary of the tested model.

Figure 2: Model representation (robust method).



5. Results analysis

The analysis performed validates the bulk of the model proposed in this article. Following is a description of the hypothesis and the results obtained.

First, it is important to note that the results obtained in this study corroborate the outcomes of previous research regarding the relationship between QMP and EMP. As indicated by Tarí et al. (2010) or Kuei and Lu (2013), the implementation of quality practices can favour the application of environmental procedures. The fact that both of the sustainability practices share implementation requirements (upper-management commitment, the demand for continued improvement, etc.) and objectives (long-term sustainability) facilitates the joint adoption or the integration of both of these practices (Karapetrovic, 2002; Karapetrovic, 2003; Poksinska et al., 2003 and Zutshi and Sohal, 2005). Another important point, evident in this study, refers to the order in which these sustainability practices are implemented. It appears that travel agencies prioritise QMP over EMP. The explanation can derive from the fact that this sector is vastly competitive and exerts a high degree of direct contact with clients in addition to being low polluting. Managers perceive quality practices as more valued by clients, and therefore, managers choose to prioritise quality practices above EMP (Llach et al., 2013). As a result, H1 is confirmed.

With regard to the effect of the QMP on business performance, the statistical analysis confirms that the implementation of quality practices improves competitiveness but does not have a direct impact on the financial performance of the company. Therefore, H2 is rejected and H3 is accepted.

The results of this study appear in line with the proposals of previous authors but against the proposals of those who declared that quality improved the financial

performance of a company. Specifically in the travel agencies sector where small businesses prevail, there is no observable direct effect of the QMP on the company's financial performance (Nair, 2006); however, there is an important increase in the company's competitiveness (Llach et al., 2013). It is clear that investing in quality during times of crisis does not generate direct economic benefits; however, it does differentiate a firm from possible competitors through an improvement in employee performance (Testa and Sipe, 2006; Sousa and Aspilwall, 2010; Alonso-Almeida and Rodriguez-Antón, 2011) and greater client satisfaction (Chen and Kao, 2010; Yee et al., 2008 and 2010; Bernardo et al., 2013). In fact, as observed in Figure 2, the model's most important impact is that of QMP on competitiveness.

EMP directly impact the economic results of a company (H4 is accepted); however, there is no improvement in competitiveness (H5 is rejected). These results could be explained by the type of environmental practices adopted by the travel agencies, which focus on internal measures (reduction of the electricity, water or paper consumption) that can hardly be observed by the external customer and result in a better company image and competitiveness (Llach et al. 2013). Nevertheless, these internal measures imply a reduction of expenses that is economically relevant and as a result impact the profit and loss statement (Pereira-Moliner, 2012; Llach et al. 2013).

To conclude, the improvement in business competitiveness derived from the combined implementation of QMP and EMP results in a direct, positive and significant impact on the financial results of the company. Therefore, H6 is accepted. Any practice that improves business performance and competitiveness (image, client satisfaction, employee satisfaction, etc.) has a positive impact on the results of the company. These results are in line with previous observations (Russo and Fouts, 1997; Alonso-Almeida and Rodríguez-Antón, 2011; Alonso-Almeida et al. 2012; Bagur-Femenías et al., 2013;

Llach et al. 2013). Another important aspect is that although QMP do not have a direct effect on the company's results, QMP do have a direct impact on benefits through EMP and competitiveness. This relation shows the importance of remaining proactive when operating in sectors that are especially affected by the crisis and in which there is continued movement (Wang, 2012; Dervitsiotis, 2012).

6. Conclusions and contributions

Few studies have examined the combined effect of implementing quality management practices and environmental management practices in the services sector. This void is more evident if we focus on sectors in which small businesses predominate and particularly if we search for sectors with high business mortality. In this sense, the conclusions derived from the present study of the travel agencies sector can be particularly relevant both for researchers and for professionals. As observed in this study, an investment in quality and environmental practices (in this order) can be the differentiating strategy that optimises the resources of a company. The initial application of quality policies breaks barriers that facilitate the later implementation of environmental practices.

Cost reduction is a priority in times of crisis, but this study demonstrates that actions related to quality and the environment are not considered expenses but, instead, investments that allow a travel agency to become differentiated and better compete.

Combining these two sustainability practices has a positive impact on business performance, although the effect of each practice is different. Quality practices improve worker's performance, customers' perception about the business and the company's image. All of these changes directly influence the business's competitiveness. Good

environmental practices improve the travel agency results by reducing significant operating expenses.

Another important aspect is the fact that cost reduction derived from the adoption of QMP (for example, duplicity elimination, simplification of processes or bad-quality expense reduction) and EMP (for example, supply-expense reduction or reduction of penalties for poor environmental practices) implies an elimination of some fixed expenses for the company. This type of reduction not only improves economic performance directly but also improves the company's capacity to continue to be viable during times of crisis. A reduction of fixed expenses allows companies to be more flexible and to have to sell less to cover costs and earn profits. This type of cost reduction is valued in times of crisis, when selling becomes very complicated and margins become tighter. In sectors that are highly competitive, small details can create the difference between surviving or closing.

Therefore, it can be concluded that being proactive in quality and environmental issues is a good strategy for differentiation and survival.

This study opens the door to future research, such as the analysis of whether the results apply to other sectors, other small businesses or other countries. It may be of interest to incorporate the model in other sustainability practices, such as corporate social responsibility.

Finally, this study is subject to certain limitations of the methodology used in the data collection. The first lies in the fact that the surveys were completed in a specific geographic region, which makes it difficult for the results to be extrapolated to other countries. Additionally, the sample is focused on travel agencies alone, and in this sense, it can be challenging to apply the conclusions to other sectors.

References

Alonso-Almeida, M.M. (2012, October). Water and waste management in the Moroccan tourism industry: The case of three women entrepreneurs. In *Women's Studies International Forum* (Vol. 35, No. 5, pp. 343-353). Pergamon.

Alonso-Almeida, M. D. 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. *The Service Industries Journal*, *32*(6), 919-936.

Alvarez Gil, M. J., Burgos Jimenez, J., & Céspedes Lorente, J. J. (2001). An analysis of environmental management, organizational context and performance of Spanish hotels. *Omega*, *29*(6), 457-471.

Amadeus, 2013. Amadeus publica los resultados de 2012. http://www.amadeus.com/co/x227073.html. April 2013.

Arasli, H. (2002). Diagnosing whether northern Cyprus hotels are ready for TQM: an empirical analysis. *Total Quality Management*, *13*(3), 347-364.

Agus, A. (2005). The structural linkages between TQM, product quality performance, and business performance: preliminary empirical study in electronics companies. *Singapore Management Review*, *27*(1), 87-105.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, *16*(1), 74-94.

Bagur-Femenias, L., Llach, J., & del Mar Alonso-Almeida, M. (2013). Is the adoption of environmental practices a strategical decision for small service companies?: An empirical approach. *Management Decision*, *51*(1), 41-62.

Bernardo, M., Llach, J., Marimon, F., & Alonso-Almeida, M. M. (2013). The balance of the impact of quality and recovery on satisfaction: the case of e-travel. *Total Quality Management & Business Excellence*, DOI: 10.1080/14783363.2013.799327.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism management*, *29*(4), 609-623.

Camisón, C. (1999). La medición de los resultados empresariales desde una óptica estratégica: construcción de un instrumento a partir de un estudio Delphi y aplicación a la empresa industrial española en el período 1983-96. Estudios financieros, 62(199), 201-264.

Carmines, E. G., & Zeller, R. A. (Eds.). (1979). *Reliability and validity assessment* (Vol. 17). Sage. Beverly Hills, CA.

Carmona-Moreno, E., Céspedes-Lorente, J., & De Burgos-Jiménez, J. (2004). Environmental strategies in Spanish hotels: contextual factors and performance. *The Service Industries Journal*, *24*(3), 101-130.

Casadesus, M., Marimon, F., & Alonso, M. (2010). The future of standardised quality management in tourism: evidence from the Spanish tourist sector. *The Service Industries Journal*, *30*(14), 2457-2474.

Casielles, R. V., del Río Lanza, A. B., & Álvarez, L. S. (2009). Las agencias de viaje virtuales:¿ Cómo analizar la calidad de e-servicio y sus efectos sobre la satisfacción del cliente?. *Universia Business Review*, (24), 122-143.

Chen, C. F., & Kao, Y. L. (2010). Relationships between process quality, outcome quality, satisfaction, and behavioural intentions for online travel agencies–evidence from Taiwan. *The Service Industries Journal*, *30*(12), 2081-2092.

Climent-Serrano S (2010) La calidad y su coste. Contabilidad y Dirección 11: 145-171.

Côté, R., Booth, A., & Louis, B. (2006). Eco-efficiency and SMEs in Nova Scotia, Canada. *Journal of Cleaner Production*, *14*(6), 542-550.

, J. J. (2004). Development of a measure to assess quality management in certified firms. European journal of operational research, 156(3), 683-697.

Cruickshank, M. (2003). Total quality management in the higher education sector: a literature review from an international and Australian perspective. *Total Quality Management and Business Excellence*, *14*(10), 1159-1167.

Das, A., Handfield, R. B., Calantone, R. J., & Ghosh, S. (2000). A Contingent View of Quality Management-The Impact of International Competition on Quality. *Decision Sciences*, *31*(3), 649-690.

Dawson, P., & Patrickson, M. (1991). Total quality management in the Australian banking industry. *International Journal of Quality & Reliability Management*, *8*(5).

Dervitsiotis, K. N. (2011). The challenge of adaptation through innovation based on the quality of the innovation process. *Total Quality Management & Business Excellence*, *22*(5), 553-566.

Dervitsiotis, K. N. (2012). An innovation-based approach for coping with increasing complexity in the global economy. *Total Quality Management & Business Excellence*, *23(9-10)*, 997-1011.

Douglas, T. J., & Judge, W. Q. (2001). Total quality management implementation and competitive advantage: the role of structural control and exploration. *Academy of Management Journal*, *44*(1), 158-169.

Enz, C. A., & Siguaw, J. A. (1999). Best hotel environmental practices. The Cornell Hotel and Restaurant Administration Quarterly, 40(5), 72-5.

Eurostat (2008). Enterprises by size class-overview of SMEs in the UE. Statistics in focus 31: pp. 1-8.

Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations management*, *11*(4), 339-366.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

Hillary, R. (2004). Environmental management systems and the smaller enterprise. *Journal of cleaner production*, *12*(6), 561-569.

Ilomäki, M., & Melanen, M. (2001). Waste minimisation in small and medium-sized enterprises—do environmental management systems help?. *Journal of Cleaner Production*, *9*(3), 209-217.

Karapetrovic, S. (2002). On the concept of a universal audit of quality and environmental management systems. *Corporate Social Responsibility and Environmental Management*, *9*(3), 147-156.

Karapetrovic, S. (2003). Musings on integrated management systems. *Measuring Business Excellence*, *7*(1), 4-13.

Kassinis, G. I., & Soteriou, A. C. (2003). Greening the service profit chain: The impact of environmental management practices. *Production and Operations Management*, *12*(3), 386-403.

Kuei, C. H., & Lu, M. H. (2013). Integrating quality management principles into sustainability management. *Total Quality Management & Business Excellence, 24(1-2),* 62-78.

Lee, K. H. (2009). Why and how to adopt green management into business organizations?: The case study of Korean SMEs in manufacturing industry. *Management Decision*, *47*(7), 1101-1121.

Llach, J., Perramon J., Alonso-Almeida M.M. & Bagur-Femenías L. (2013) Joint impact of quality and environmental practices on firm performance in small service businesses: an empirical study of restaurants. *Journal of Cleaner Production 44*(2013), 96-104.

Lin, C. T., Lee, C., & Chen, W. Y. (2009). Using fuzzy analytic hierarchy process to evaluate service performance of a travel intermediary. *The Service Industries Journal*, *29*(3), 281-296.

Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2002). WebQual: A measure of website quality. *Marketing theory and applications*, *13*(3), 432-438.

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. *Journal of Cleaner Production*, *17*(5), 516-524.

Nair, A. (2006). Meta-analysis of the relationship between quality management practices and firm performance—implications for quality management theory development. *Journal of Operations Management*, *24*(6), 948-975.

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. *Decision Sciences*, *39*(4), 671-702.

Pereira-Moliner, J., Claver-Cortés, E., Molina-Azorín, J. F., & Tarí, J. J. (2012). Quality management, environmental management and firm performance: direct and mediating effects in the hotel industry. *Journal of Cleaner Production*, *37*, 82-92.

Pérez, V.A. & Casasola, M.A. (2013). Transparencia en la información financiera sobre responsabilidad medioambiental: efecto de la resolución del ICAC de 2002 en las empresas cotizadas. *Contabilidad y Dirección*.

Poksinska, B., Dahlgaard, J. J., & Eklund, J. A. (2003). Implementing ISO 14000 in Sweden: motives, benefits and comparisons with ISO 9000. *International Journal of Quality & Reliability Management*, *20*(5), 585-606.

Rodríguez-Antón, J. M., del Mar Alonso-Almeida, M., Celemín, M. S., & Rubio, L. (2012). Use of different sustainability management systems in the hospitality industry. The case of Spanish hotels. *Journal of Cleaner Production*, *22*(1), 76-84.

Rodríguez-Antón, J. M., Alonso-Almeida, M. M., & Rubio-Andrada, L. (2011). Shedding more light on the impacts of quality certified systems in small service enterprises. A multidimensional analysis. *African Journal of Business Management*, *5*(19), 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 Quality Management*, *22*(2), 145-157.

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 Quality Management & Business Excellence*, *22*(8), 833-852.

Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of management Journal*, *40*(3), 534-559.

Sadikoglu, E., & Zehir, C. (2010). Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance: An empirical study of Turkish firms. *International Journal of Production Economics*, *127*(1), 13-26.

Saraph, J. V., Benson, P. G., & Schroeder, R. G. (1989). An instrument for measuring the critical factors of quality management. *Decision sciences*, *20*(4), 810-829.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, *8*(2), 23-74.

Seiffert, M. E. B. (2008). Environmental impact evaluation using a cooperative model for implementing EMS (ISO 14001) in small and medium-sized enterprises. Journal of *Cleaner Production*, *16*(14), 1447-1461.

Singh, R. K., Garg, S. K., & Deshmukh, S. G. (2008). Strategy development by SMEs for competitiveness: a review. *Benchmarking: An International Journal*, *15*(5), 525-547.

Sousa, S., & Aspinwall, E. (2010). Development of a performance measurement framework for SMEs. *Total Quality Management*, *21*(5), 475-501.

Tarí, J. J., Claver-Cortés, E., Pereira-Moliner, J., & Molina-Azorín, J. F. (2010). Levels of quality and environmental management in the hotel industry: Their joint influence on firm performance. *International Journal of Hospitality Management*, *29*(3), 500-510.

Terlaak, A., & King, A. A. (2006). The effect of certification with the ISO 9000 Quality Management Standard: A signaling approach. *Journal of Economic Behavior & Organization*, *60*(4), 579-602.

Testa, M. R., & Sipe, L. J. (2006). A Systems Approach to Service Quality Tools for Hospitality Leaders. *Cornell Hotel and Restaurant Administration Quarterly*, *47*(1), 36-48.

Visauta, B. (1998). Análisis estadístico con SPSS para windows. Estadística multivariante (II). McGraw Hill.

Wang, W. T. (2012). Evaluating organisational performance during crises: A multi-dimensional framework. *Total Quality Management & Business Excellence*, *23*(5-6), 673-688.

Wang, H. K., & Yen, Y. F. (2012). An empirical exploration of corporate entrepreneurial orientation and performance in Taiwanese SMEs: a perspective of multidimensional construct. *Total Quality Management & Business Excellence*, *23*(9-10), 1035-1044.

Wiengarten, F., & Pagell, M. (2012). The importance of quality management for the success of environmental management initiatives. *International Journal of Production Economics, 140*(1), 407-415.

Yee, R. W., Yeung, A. C., & Cheng, T. C. (2008). The impact of employee satisfaction on quality and profitability in high-contact service industries. *Journal of Operations Management*, *26*(5), 651-668.

Yee, R. W., Yeung, A. C., & Edwin Cheng, T. C. (2010). An empirical study of employee loyalty, service quality and firm performance in the service industry. *International Journal of Production Economics*, *124*(1), 109-120.

Zeng, S. X., Meng, X. H., Yin, H. T., Tam, C. M., & Sun, L. (2010). Impact of cleaner production on business performance. *Journal of Cleaner Production*, *18*(10), 975-983.

Zutshi, A., & Sohal, A. S. (2005). Integrated management system: the experiences of three Australian organisations. *Journal of manufacturing technology management*, *16*(2), 211-232.

Appendix 1:

Code	Definition
Quality Management Practices (QMP): Saraph, et al. (1989); Flynn et al., (1994); Conca et al. (2004); Naor et al. (2008); Molina-Azorín et al. (2009); Sadikoglu and Zehir (2010).	
QMP1	Upper management is committed to the quality of the product/service provided.
QMP2	The company collaborates with clients and/or suppliers to improve quality.
QMP3	Improvements in the provision of services are identified.
QMP4	The achievement of objectives is monitored, and possible deviations are corrected.
QMP5	There is a culture focused on continuous improvement.
Environmental management practices (EMP): Alvarez et al., (2001); Carmona-Moreno et al., (2004); Coté et al., (2006); Molina-Azorin et al., (2009); Bagur-Femenías et al., (2013); Pérez V.A., (2013).	
EMP1	The company trains its employees regarding environmental matters.
EMP2	The company uses environmental arguments in marketing campaigns.
EMP3	The company has a long-term environmental strategic vision.
EMP4	The company quantifies environmental savings and expenses.
Competitiveness (COMP): Camison, (1999); Enz and Siguaw, (1999); Kassinis and Soteriou, (2003); Hillary (2004); Molina-Azorín et al. (2009).	
COMP1	The company's image has improved. .
COMP2	Client satisfaction has increased.
COMP3	The level of employee satisfaction has improved.
Financial Performance (FP): Das et al. (2000); Douglas and Judge (2001); Agus (2005); Kassinis and Soteriou, (2003); Molina-Azorin et al. (2009); Zeng et al., (2010); Rodriguez-Anton et al., (2011); Rubio-Andrada et al. (2011); Bagur-Femenías et al. (2013).	
FP1	Profits have increased in the past two accounting periods.
FP2	Market share has increased in the past two years.
FP3	Sales have increased in the past two accounting periods.