

The Relationship between Managers' Environmental Perceptions, Environmental Management and Firm Performance in Spanish Hotels: a Whole Framework

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ABSTRACT

The examination of the possible direct link between environmental protection and firm performance has generally produced mixed results. This paper contributes to the literature by considering the antecedents of hotel managers' environmental attitudes to check whether perceptions of the external and internal factors are behind the adoption of a proactive environmental management. The study also tests whether or not the resource-based view of the hotel mediates the positive relationships of proactive environmental management and improved environmental performance with competitive advantage and financial performance. This contribution is original because this study develops a comprehensive whole picture of this path process, which has previously only been partially discussed in the literature. Copyright © 2010 John Wiley & Sons, Ltd.

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competitive advantage; financial performance; structural equation model; hotel industry.

INTRODUCTION

Tourism is an industry that depends on the natural environment (Curtin and Busby, 1999). Recent research has emphasized the importance of the environment for tourism activity and development (Chan and Wong, 2006; Butler, 2008). It has also been concerned with the impacts that tourism has on natural resources (Claver *et al.*, 2007; Shunnaq *et al.*, 2008). In the last United Nations Climate Change Conference held in Copenhagen in December 2009, it has been told that the role of tourism in the generation or control of greenhouse gases is highly relevant. If global warming takes place as it is forecast, at the very least, winter sports holidays, island holidays and beach and sun holidays will be under massive pressure. Certainly it will mean that the geography of the tourism industry will change dramatically (UNFCCC, 2010).

In this context, environmental factors have gained major importance (Curtin and Busby, 1999). An important question is what determines hotels' environmental activities and commitment? Previous research across a range of disciplines has attempted to identify forces that motivate and encourage firms to respond to environmental issues (Aragón-Correa *et al.*, 2004). Stakeholders (such as customers, local

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communities, government agencies and public interest groups), environmental legislation and the availability of resources and capabilities to implement a proactive environmental management¹ are considered relevant forces that affect environmental decision-making and actions (Banerjee *et al.*, 2003). Some research has pointed out that there are links between top management's perceptions of environmental issues as threats or opportunities and choice of environmental management, so that a positive relationship exists between top management's perceptions of environmental issues as opportunities and adoption of proactive environmental management (Sharma, 2000). In this respect, managerial perceptions of environmental issues can reflect both external and internal driving forces that affect environmental decision-making and these forces may be considered in order to adopt environmental management strategy.

The hotel industry has been traditionally considered one that does not have a great impact on the natural environment compared to manufacturing industry. However, it generates much more negative environmental impacts that the public perceives, consuming a vast amount of local and imported non-durable goods, energy and water, as well as emitting a large amount of carbon dioxide (Bohdanowicz, 2006). As an emerging strategy, environmental management has increased its attraction by hotel managers because it encompasses the technical and organizational activities undertaken by the organization for the purpose of reducing these environmental impacts and minimizing their effects on the natural environment (Cramer, 1998).

Financial performance has been considered one of the most visible advantages coming from proactive environmental management and improved environmental performance. Previous literature has underlined financial perfor-

mance of proactive environmental management as one of the main drivers of going green, and related environmental organizations have provided quantitative evidence of cost and differentiation advantages. Bohdanowicz (2005) suggests that the most significant benefits are reduction of operating costs, demands from customers and improved hotel image.

On the basis of the ideas discussed above, our study contributes to the literature because we offer an analysis, based on a single framework, of the influence that some external and internal factors exert on managerial perception about the natural environment as a competitive opportunity, and additionally, about the effect that this managerial perception has on the adoption of superior proactive environmental management schemes. We also analyse the impact that proactive environmental management has on environmental performance, and the effect that these environmental variables have on competitive advantage and financial performance through the resource-based view. We examine all these relationships within the same structural equation model. Therefore, our proposal is original in explicitly stating and testing the path process between the different variables in our model. Although this path process is implicit in many previous works (and partially discussed in some theoretical papers), we offer a whole picture.

Finally, research about a firm's response to environmental concerns has mainly focused on the manufacturing industry. Service firms have been slower in taking positive action in environmental matters and have consequently attracted much less research attention (Álvarez *et al.*, 2001; Ayuso, 2006). This is the case for the tourism industry. Our research is a step in the direction towards better understanding of the peculiarities of the hotel industry regarding environmental protection. A number of reasons justify our choice. For example, we selected the tourism industry, and more specifically the hotel industry, because of the relevance that this area of activity has for Spain's socio-economic structure. The tourism industry was directly or indirectly responsible for the generation of 11% of the country's gross domestic product in 2005 (INE, 2006) — and additionally, of 15% of the employment created within the service industry (National Statistics Institute Information

¹ 'Environmental management' is defined as 'the equipment, methods and procedures used at the production, product design and product distribution mechanisms which save energy and natural resources, minimize the environmental problems generated by human activities and protect the natural environment' (Shrivastava, 1995). Proactive environmental management has been delimited as systematic patterns of voluntary practices that go beyond regulatory requirements, for instance in terms of waste reduction and prevention of pollution at source (Aragón-Correa and Rubio-López, 2007).'

Bulletin, 2005) — which configured it as the first productive industry in Spain. Moreover, the tourism industry is dependent on the natural environment as the basis for the tourism product itself. Shunnaq *et al.* (2008) highlight the dilemma faced by tourism organizations as there is a need to protect the environment both for tourism and from tourism. Another reason is the possibility of conceiving new ideas about the link between tourism development and the different sustainability dimensions (environment, society and economy). In fact, we view 'sustainable tourism' as the development of a tourist product that is more respectful of — or less harmful to — the environment and which at the same time, can offer a competitive advantage in the tourism market and ensure its long-term economic viability (Ayuso, 2006).

This paper has the following structure. Firstly, we offer a literature review followed by a presentation of the research design. Next, we show the findings based on a structural equation model for the hotel industry in Spain. Then, we discuss these findings, present some managerial implications and summarize the main conclusions.

BACKGROUND AND HYPOTHESES

The relationship between internal and external factors and managerial perception

Environmental behaviour of firms depends on some internal and some external forces (Fraj-Andrés *et al.*, 2008). These forces may influence the handling of an organization's environmental concerns but do not homogenize environmental commitment across the organizations within a given context. Managers who are accountable for an aspect of organizational functioning therefore have opportunities to influence the commitment of their organization, even in the environmental area, where external pressures (e.g. new environmental laws) are numerous and sometimes strong (Aragón-Correa *et al.*, 2004; Bohdanowicz, 2005). Managers significantly influence the environmental commitment of their firms through their interpretations, preferences or decisions, which depend on the possibility of gaining competitive advantage associated with environmental actions (Miles and Covin, 2000).

Environmental regulations have been the main driving force behind managerial perception (Banerjee *et al.*, 2003). A number of authors have actually argued that coercive forces could drive firms towards more proactive environmental strategies through the possibility of avoiding some of the potential costs and legal liabilities inherent in coercive green forces, to pre-empt more extensive and stringent coercive regulations and to minimize the uncertainty that is characteristic of government approaches (Clemens and Douglas, 2006). Rivera and Molero (2006) identify a positive relationship between legislative environmental pressure and managerial perception that can help design environmental management as a competitive opportunity. These results lead us to hypothesize the following:

Hypothesis 1: The environmental legislation exerts a positive influence on the manager's perception about the environment as a competitive opportunity.

Stakeholders may influence managerial perception by means of two instruments: pressure and cooperation. The pressure exerted by stakeholders on managers is increasingly intense. Pressure may separate the firm from the rest of the society, thus leading to a worsening reputation, to increased costs and to a reduction of the shareholder value because of the erosion of the license to act (Hill, 2001). Therefore, presumably, the stronger the pressure exerted by stakeholders, the greater the interest of managers in protecting the environment.

In turn, all this pressure pushes the firm to include an ability to develop collaborative relationships with stakeholders for the purpose of finding solutions to environmental problems (Sharma and Vredenburg, 1998). Sharma *et al.* (2007) indicate that managers can positively value the potential competitive opportunities derived from the dialogue with their stakeholders, as the latter will bring new ideas and knowledge likely to favour an anticipating, preventive and innovative attitude within the organization. Thus, firms with managers who view the wide variety of their stakeholders as important will probably pay more attention to the development of proactive environmental strategies than those who focus on narrow sets

(Buysse and Verbeke, 2003). In that case, we can state the following two hypotheses:

Hypothesis 2a: A stronger pressure exerted by stakeholders on the firm has a positive impact on the perception of managers about the environment as a competitive opportunity.

Hypothesis 2b: A greater collaboration of stakeholders with the firm has a positive impact on the perception of managers about the environment as a competitive opportunity.

Managers' perception of environmental responsibility as a competitive opportunity also depends on the availability of complementary resources and capabilities already owned by the firm (Hart, 1995; Aragón-Correa, 1998; Christmann, 2000; Aragón-Correa and Sharma, 2003). Nakamura *et al.* (2001) indicate that resources and capabilities facilitate firm adaptation of these resources thus reducing the costs of accommodating it to new environmental requirements. This may contribute to a positive perception of managers about the environment as a competitive opportunity. The reason is that these resources favour the adoption of practices with more aggressive environmental goals, extending them to skills related to pollution proactive (Rondinelli and Vastag, 2000). Additionally, these firms will be able to achieve greater environmental improvements because they can make a more efficient use of their internal experience and obtain constant improvements thus enhancing their organizational efficiency (Christmann, 2000). These arguments lead to another hypothesis:

Hypothesis 3: The complementary resources and capabilities available to the firm positively influence the perception of managers about the environment as a competitive opportunity.

The relationship between managerial perception, resources and capabilities and proactive environmental management

Managerial perceptions about the characteristics of the environment influence the extent to

which managers will generate proactive environmental strategies (Sharma *et al.*, 2007). Sharma (2000) shows that managers exercise strategic choice by undertaking environmental management schemes, which relate to managerial interpretations of environmental issues as threats or as opportunities (Sharma *et al.*, 1999).

Some internal resources and capabilities equally affect the environmental management adopted within the firm (Zhu *et al.*, 2008). These resources vary radically depending on whether or not that firm goes beyond compliance to embrace proactive pollution (Russo and Fouts, 1997). In addition, it also depends on how managers accept their leadership responsibilities to define environmental behaviour and to pursue it relentlessly as a top-priority goal (Thomas *et al.*, 2004). Thus, the passive accommodating or proactive environmental attitude of managers and the available resources in the firm are significant factors shaping a firm's environmental orientation. When the manager has a passive or accommodating attitude, the firm adopts end-of-pipe technologies. Instead, when the manager has a proactive attitude, the firm introduces proactive technologies that can reduce pollution to a greater extent or even remove it completely from the productive process, as a result of the investments made in clean technologies. Shifts from a reactive approach towards pollution proactive require substantial resource allocations in multiple domains, for example, investments in green products and manufacturing technologies, in employee skills and in the reconfiguration of the strategic planning process (Russo and Fouts, 1997; Buysse and Verbeke, 2003). All these arguments lead to another two hypotheses:

Hypothesis 4: The higher the degree to which the manager sees the natural environment as a competitive opportunity, the higher the likelihood of developing a proactive environmental management scheme.

Hypothesis 5: The greater the availability of complementary resources and capabilities in the firm, the higher the likelihood of developing a proactive environmental management scheme.

Environmental protection and firm performance

Environmental management and environmental performance. The environmental management literature has shown that the adoption of environmental practices by firms typically leads to or has to do with good environmental performance (e.g. Zhu and Sarkis, 2004).

Better environmental performance levels can be derived from different types of environmental practices that do not always have the same effects on environmental performance. Environmental performance relates to end-of-pipe and pollution proactive environmental management. One would expect an end-of-pipe environmental management to favour improvement, mainly in the undesired outputs of production processes, such as emissions into the air and into the water, which result in few positive effects on environmental performance (Schaltegger and Figge, 2000). By contrast, efficiency improvements brought about by integrating a proactive stance on pollution can encompass activities such as improvements in the firm's energy-use or water-use efficiency, or increased resource efficiency — that is, reduced amounts of production input per unit of product output (Wagner, 2005). Therefore, the effect of proactive environmental management on environmental performance should be more positive than of end-of-pipe activities, although both of them reduce emissions. Wagner (2005) demonstrates that high levels of firm performance coincide with high levels of environmental performance only if the firm's environmental management technology has a pollution proactive orientation. All the above-mentioned hypotheses lead to another hypothesis:

Hypothesis 6: A positive relationship exists between proactive environmental management and environmental performance improvement.

Environmental protection and competitive advantage through the resource-based view. The impact of environmental variables on financial performance may not be an immediate one. Thus, it is important to analyse the causal relationships between different variables, considering the

role of mediating variables. Firm resources and competitive advantage may play an important role.

The contribution of proactive environmental management to competitive advantage is in terms of costs and differentiation (González-Benito and González-Benito, 2005; Galdeano-Gómez *et al.*, 2008). Decisions such as the purchase of a new green technology, the consideration of greener distribution and transportation systems, or the eco-design of products and processes will allow firms to gain competitive advantages derived from cost reductions (Fraj-Andrés *et al.*, 2008). Christmann (2000) provides evidence showing that the higher the firm's level of innovation in pollution proactive technologies, the larger the cost advantage it will gain from environmental strategies. Differentiation advantages typically arise from the perception on the part of customers that the product is more valuable (Bohdanowicz, 2005). Thus, differentiation advantages usually depend on the fit of product characteristics and market needs and on the firm's ability to market the environmental characteristics of their products and services (Galdeano-Gómez *et al.*, 2008).

In this relationship, firm resources should be considered as a mediator variable. Firm resources have been the output of proactive environmental management strategies (e.g. continuous innovation or stakeholder management) and social reputation and legitimization (Dinan, 2000; Aragón-Correa and Rubio-López, 2007). Aragón-Correa and Sharma (2003), Christmann (2000), Sharma and Vredenburg (1998) and Wagner (2005) identify the importance of developing superior firm resources based on the firm's relationship with the natural environment as a source of competitive advantage. For instance, Miles and Covin (2000) indicate that a firm's advantage in reputation is bound to favour a more profitable exploitation of marketing opportunities, and thus, increase market value. We suggest the next two hypotheses:

Hypothesis 7a: The firm resources generated through proactive environmental management mediate the positive relationship between proactive environmental management and cost competitive advantage.

Hypothesis 7b: The firm resources generated through proactive environmental management mediate the positive relationship between proactive environmental management and differentiation competitive advantage.

Other studies have analysed the relationship between environmental performance and competitive advantage. For example, Wagner and Schaltegger (2004) explain that the reduction of environmental impact has a significant and positive influence on environmental competitiveness dimensions (market-, internal-, profitability- and risk-related environmental competitiveness).

In this relationship, firm resources should be considered as a mediator variable. Environmental performance encourages the development of new firm resources. Konar and Cohen (2001) extend the standard economic technique of decomposing a firm's market value into its tangible and intangible assets, by separating out environmental performance for intangible assets of the firm. Their key finding is that there is a significant positive relationship between environmental performance and the intangible asset value. Moreover, these assets may improve the competitiveness of the firm (López-Gamero *et al.*, 2009). Firms with very low manufacturing emissions with respect to their competitors may be able to gain a first-mover advantage after improving their green image in emerging green product markets (Roy, 1999). In the light of the reasons mentioned, we propose the following hypotheses:

Hypothesis 8a: The firm resources generated through proactive environmental management mediate the positive relationship between environmental performance improvement and cost competitive advantage.

Hypothesis 8b: The firm resources generated through proactive environmental management mediate the positive relationship between environmental performance improvement and differentiation competitive advantage.

Competitive advantage and financial performance. Although there are many other variables

involved, the ultimate consequence of any competitive advantage deriving from proactive environmental management will most probably be an improvement in financial performance (González-Benito and González-Benito, 2005). Improving their environmental performance allows firms to enhance their competitive edge in terms of reducing costs, gaining a strong reputation among customers and increasing their competitiveness in international markets. These benefits may, in turn, positively impact on the firm's overall financial performance (Lindell and Karagozoglu, 2001). Thus, the following hypotheses can be advanced:

Hypothesis 9a: Cost competitive advantage has a positive effect on financial performance.

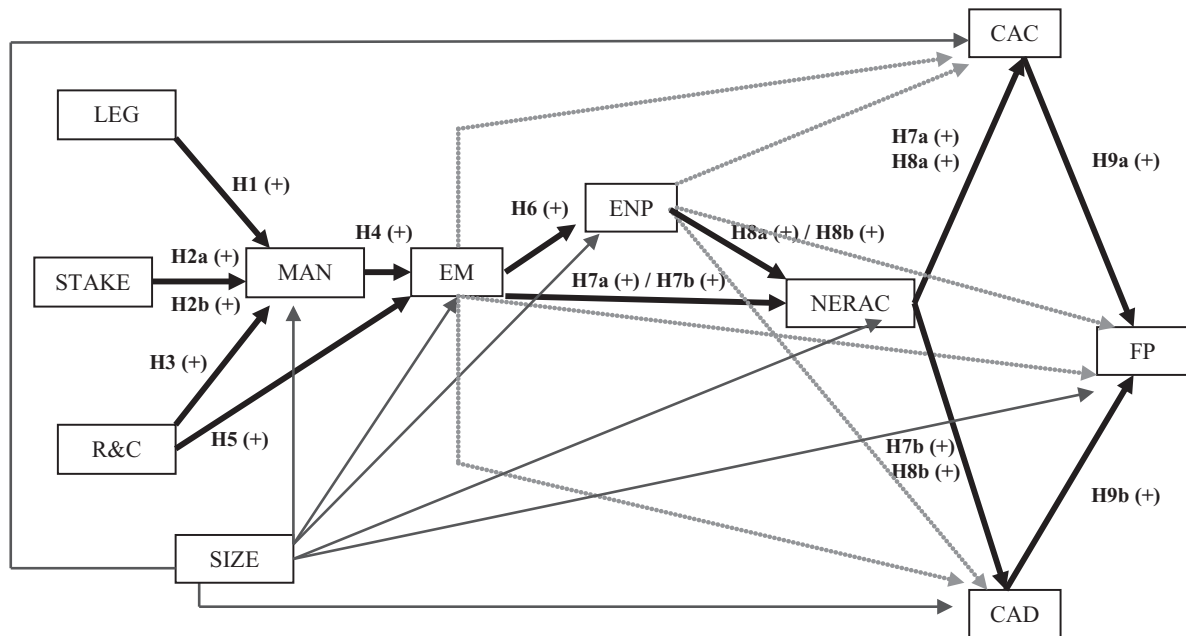
Hypothesis 9b: Differentiation competitive advantage has a positive effect on financial performance.

Figure 1 shows our proposed model and the hypotheses.

METHODS

Sample and data collection

The population was made up of 3900 three-to-five-star **Spanish** individual hotels which appeared in the Official Hotel Guide published by Turespaña in September 2004. These categories corresponded to establishments with more possibilities to apply environmental practices. A structured questionnaire with closed questions was sent by post to the hotel managers. The cover letter and the instructions indicated that an environment manager — or otherwise someone familiar with these issues — should answer the questionnaire. The interviewee could fill in the questionnaire on a web page too. We sent four reminder emails during the four weeks following the initial mailing so as to encourage response. Moreover, we made follow-up phone calls starting two weeks later. Two hundred forty hotels sent their responses, a response rate that, considering the length of the questionnaire and the senior level of the managers



The thick solid lines indicate the relationships established as a hypothesis in the model; the thin solid lines indicate the relationship between the control variable and the variables which constitute the link between environmental protection and firm performance; finally, the dotted lines indicate all those relationships which we also introduced into the structural equation model for the purpose of checking that statistically significant relationships exist between the variables they link.

Variables = SIZE (control variable); Ln (employees); LEG: environmental legislation; STAKE: stakeholders; R&C: complementary resources and capabilities; MAN: managerial perceptions about the natural environment as a competitive opportunity; EM: environmental management; ENP: environmental performance; NERAC: new resources and capabilities; CAC: competitive advantages on costs; CAD: competitive advantages in differentiation; FP: financial performance.

Figure 1. Hypothesized model

targeted, is relatively good and in keeping with those obtained by other researchers who have studied similar organizational phenomena in Spain (Brío and Junquera 2001; Brío *et al.* 2002; Carmona-Moreno *et al.* 2004).

Prior to this, there was a pre-test stage which involved 10 hotel managers and four researchers specialized in hospitality management. This pre-test stage helped to improve the structure and content of the questionnaire.

Regarding the sample, 59.3% of the respondents were three-star hotels; 36.1% corresponded to four-star establishments and only 4.67% were five-star hotels. The average number of employees in the hotels analysed was 48, the maximum value for that variable being 235 employees. The average size of the hotels was 130 rooms and 250 beds, and finally, regarding the type of hotel affiliations, 41% of the establishments were chain-affiliated, whereas the remaining 59% were independent.

In order to detect possible problems related to non-response error or bias, we drew a comparison between early respondents and late respondents within each population for each item (Armstrong and Overton 1977), after which we divided the data obtained into thirds, within each population, according to the number of working days elapsed between the initial mailing to the firm and the receipt of the questionnaire. The *t*-tests between the first and last third revealed no statistically significant differences in the mail responses for the constructs used. Hence, on an overall basis, non-response bias does not appear to be a problem in our study.

Measurements

The relevant writings in the literature were canvassed in order to operationalize the

constructs depicted in Figure 1. All measures were subjected to confirmatory factor analysis to provide support for the issues of dimensionality, convergent and discriminant validity. Table 1 shows scale items, standardized loadings, reliabilities and confirmatory factor analysis results of the variables of the research.

Environmental legislation (LEG). This variable included four items drawn from Dean and Brown (1995), King (2000) and Porter (1991). We asked managers to position their respective firms on a scale of 1–7 depending on their grade of agreement or disagreement with the arguments of the issues related to environmental regulation. Exploratory principal components analysis with varimax rotation of those items showed that they formed only one factor with eigenvalue >1. Cronbach's alpha of environmental regulation is 0.61.

Stakeholders (STAKE). It was defined as any person, group or organization that has direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives and policies. This variable included six items drawn from Álvarez *et al.* (2001). We used seven items based on press and collaboration of the stakeholders in their relationships with the firm. Each item was measured on a 7-point Likert response scale (1 = 'there are not any press or collaboration', 7 = 'there are total press or collaboration'). Exploratory principal components analysis with varimax rotation of those items showed that they formed two significant factors (eigenvalues >1): F1 STAKE = degree of pressure exerted by stakeholders (Cronbach's alpha = 0.61) and F2 STAKE = level of collaboration with these groups (Cronbach's alpha = 0.89).

Resources and capabilities (R&C). This variable included 11 items drawn from Aragón-Correa (1998), Christmann (2000), and Hart (1995). Managers had to evaluate if those resources had been used in the adoption of a proactive environmental management. Each item was measured on a 7-point Likert response scale (1 = 'strongly disagree', 7 = 'strongly agree'). Exploratory principal components analysis with varimax rotation of those items showed that they formed three significant factors

(eigenvalues >1): F1 R&C = actions and degree of involvement of the top management in the firm's operations (Cronbach's alpha = 0.81), F2 R&C = learning and knowledge of employees (Cronbach's alpha = 0.77) and F3 R&C = speed and flexibility with which the firm carries out changes to adapt to new environmental conditions (Cronbach's alpha = 0.76).

Managerial perceptions (MAN). This variable included seven items drawn from Del Brío *et al.* (2003), Hutchinson (1992) and Nijkamp *et al.* (1999). We asked managers to position their respective firms on a scale of 1–7 depending on their perception about the natural environment as a competitive opportunity or as a threat (1 = 'strongly opportunity', 7 = 'strongly threat'). Exploratory principal components analysis with varimax rotation of those items showed that they formed only one factor with eigenvalue >1 (Cronbach's alpha = 0.80).

Environmental management (EM). We considered two groups of items to measure the proactiveness of the environmental management drawn from different studies (Álvarez *et al.*, 2001; Carmona-Moreno *et al.*, 2004): organizational aspects (15 items) and technical aspects (nine items) of the environmental management. Managers were required to evaluate in a range of 7 points from 1 (they had not addressed that issue) to 7 (they were leaders on that practice in their sector) if they had adopted those environmental practices. Exploratory principal components analysis with varimax rotation of items of 'environmental management-organizational aspects' showed that they formed two significant factors (eigenvalues >1): F1 EMORG = organizational aspects linked to knowledge and learning in the development of environmental practices (Cronbach's alpha = 0.93), and F2 EMORG = variables that reflected the link between the firm and its stakeholders during the development of the organization's environmental management strategy (Cronbach's alpha = 0.89). The 'environmental management-technical aspects' variable was measured using nine items. Exploratory principal components analysis with varimax rotation of those items showed that they formed only one factor with eigenvalue >1 (Cronbach's alpha = 0.89).

Table 1. Scale items, reliabilities and confirmatory factor analysis results ($n = 240$)

Scale items	Standardized loadings	Factors (eigenvalue)	% of variance extracted	Alpha
Environmental legislation				
It has become too strict in recent years.	0.62	F1 (1.626)	54.205	0.61
It has a negative impact on competitiveness because it increases firm costs.	0.57			
It generates incentives to innovate, as it encourages the adoption of the best practices available (BPA)**				
It establishes rigid restrictions on the adoption of new products and technological processes.	0.65			
Stakeholders				
Threaten to fine the firm if the latter does not protect the environment	0.62	F1: Stakeholders — degree of pressure exerted by stakeholders (2.418)	47.203	0.61
Promise rewards if the firm improves its environmental behaviour	0.67			
Remind the firm of its moral duties to protect the environment**				
Provide their perspective about how to solve the firm's environmental problems successfully	0.86	F2: Stakeholders — level of collaboration (1.013)	29.686	0.89
Provide new ideas to improve environmental and management practices	0.94			
Co-operate with the firm through forums created to share their expectations and values with the aim of understanding them and reaching an agreement	0.74			
Resources and capabilities				
The top management's behaviour inspired the acceptance of change by all the other members of the organization.	0.73	F1: R&C — involvement of the management (4.077)	50.961	0.81
All the organization members knew and shared the firm's mission and objectives.	0.91			
We identified the new customer and market opportunities because we had established a watch and monitoring system.**				

Table 1. *Continued*

Scale items	Standardized loadings	Factors (eigenvalue)	% of variance extracted	Alpha
The employees were aware of the progress made in their work areas (new knowledge, new practice development, etc.).	0.77	F2: R&C — employees' learning and knowledge (1.113)	11.409	0.77
We transmitted the knowledge owned by any person and this information was readily accessible to all his/her workmates.	0.83			
The employees were able to take initiatives and decisions on their own thanks to the encouragement of authority delegation.	0.72			
Our close relationships with suppliers and customers allowed us to know at first hand and before the rest of firms the existence of new products or services, needs, new technologies or machinery.		F3: R&C — speed and flexibility to introduce changes to adapt to the environment (1.015)	10.768	0.76
On some occasions, we consulted other firms to improve in some aspect.**				
We were able to make rapid changes in the product design and/or introduce new ones fast.	0.68			
We were acting in accordance with the principles and practices of quality management.	0.74			
We adapted to the new market conditions more rapidly and in better conditions than our competitors.	0.58			
We collaborated in the sponsorship of sporting and social activities.*		F1 (2.626)	62.516	0.80
We were able to apply a higher price than the rest of firms with which we competed.*				
Managerial perceptions				
Man 1: Environmental initiatives slow down growth.	0.76			
Man 2: The environment represents an opportunity for the firm.	0.79			
Man 3: The environment entails an additional cost.*				
Man 4: Reasonable environmental management is not an option, but a necessity.*				
Man5: Firms can only attend to environmental issues during periods of economic prosperity, as they do not generate profit for the organization.	0.57			
Man 6: The solution to technological problems depends on new technologies, not on the actions that firms may perform.	0.56			
Man 7: The concern for the environment is a passing fad.	0.62			

Environmental management — organizational aspects				
The enterprise formally communicates its environmental policy and strategy to all its employees.	0.84	F1: Environmental management — knowledge and learning (8.712)	62.226	0.93
The management team participates in and encourages environmental management initiatives.	0.88			
The firm revises environmental and procedure manuals periodically.	0.90			
The firm adapts or modifies the organizational structures (the organizational chart and the description of roles within the organization) if necessary to facilitate environmental management.	0.86			
The firm removes barriers to environmental communications, including the encouragement for employees to communicate directly with their managers or with other firm employees.	0.69			
The employees have the environmental competencies required to develop their professional activity.	0.78			
When there is a wish to improve in some environmental aspect, the firm establishes collaboration with other firms so that they can help to achieve the improvement.**				
Support is given to experimentation with new methods with the aim of identifying environmental improvement areas.	0.79			
The firm establishes emergency procedures to respond to environmental problems and accidents.	0.82			
The firm gives priority to the purchase of less harmful components and/or products.	0.72	F2: Environmental management — relationships with stakeholders (1.239)	13.035	0.89
The firm evaluates the suppliers' environmental record.	0.74			
The firm uses a standardized system for the treatment of customer complaints.	0.80			
The firm elaborates an environmental report.	0.79			
The firm sponsors environmental events and/or establishes collaboration with ecologist organizations.	0.81			
The firm regularly provides information about environmental management to suppliers, customers and institutions.	0.64			

Table 1. *Continued*

Scale items	Standardized loadings	Factors (eigenvalue)	% of variance extracted	Alpha
Environmental management — technical aspects				
Respect and promotion of the autochthonous vegetation in gardens and green areas	0.70	F1 (3.888)	64.779	0.89
Selection of low-impact products (low energy content light bulbs, climalit, recycled paper, detergents and so on)*				
Residue reduction (selective collection, use of returnable bottles, crushers and so on)	0.78			
Convenient elimination/treatment/storage of the remaining waste	0.78			
Consumption of lower-impact resources (phytosanitary products and so on)*				
Lower resource consumption (reducing water consumption, filters, good practice instructions, osmosis tanks, incorporation of leak detection and so on)	0.76			
Ensuring low energy consumption (incorporating automatic stranger functions, presence detection cells)*				
Use of clean energy sources (hydraulic, natural gas, sun, wind and so on).	0.71			
Favours product reuse/recycling (returnable bottles, larger volume bottles to reduce their numbers).	0.78			
Environmental performance				
Ecological impact		F1 (4.441)	74.017	0.93
Efficient use of water*	0.78			
Improvement in energy efficiency*				
Efficient use of raw materials and resources	0.83			
Control and reduction of emissions into the atmosphere	0.89			
Control and reduction of acoustic pollution	0.78			
Control and reduction of the characteristics and volume of the residues generated	0.81			
Control and reduction of the characteristics and volume of spills**				
Prevent pollution at the source	0.88			

New resources and capabilities			
Capability of experimentation and ongoing innovation with new methods designed to reduce the environmental impact**	0.87	F1 (3.753)	75.064
Environmental reputation of the enterprise	0.71		0.92
Capability to alter the economic structure of the organization**	0.91		
Capability to boost the process of learning in environmental practices	0.83		
Ability to develop formal and informal environmental information exchange channels	0.82		
Capability to co-operate with external stakeholders in the firm's environmental action			
Environmental leadership of the management			
Competitive advantage in differentiation	0.65	F1 (2.822)	70.547
Fidelizing its current customers and/or attracting other new customers	0.86		0.86
Gaining brand image	0.91		
Achieving greater credibility before the society	0.69		
Enjoying preferential relationships with the administration			
Increasing product quality**			
Competitive advantage on costs	0.65	F1 (2.066)	68.859
Reduction in insurance premium costs	0.86		0.78
Cost reduction because of the unification of some administrative and/or technical processes (e.g. with a quality management system)	0.68		
Reduction in regulation compliance costs (the firm avoids fines for polluting and compensations for damages caused)			
Reduction of costs associated with recycling and reuse**			
Financial performance	0.71	F1 (2.404)	80.127
Added value growth	0.96		0.72
Economic profitability (year result/total assets)	0.95		
Financial profitability (year result/own funds)			

Each item is measured on 7-point scales. All loadings are significant at the 0.01 or better.

The items with * have been deleted following the advice of experts that revised the initial survey. The items with ** have been deleted in the confirmatory factor analysis. None of the items have been deleted in the analysis of measurement model in the structural equations model.

Environmental performance (ENP). ENP variable included nine items drawn from Stanwick and Stanwick (1998) and Wagner *et al.* (2002). We asked managers to position his or her firm on a scale of 1–7 depending on the position of the firm in relation to competitors in environmental performance issues such as efficient use of resources, reduction of emissions, residues and acoustic pollution, so on. Exploratory principal components analysis with varimax rotation of those items showed that they formed only one factor with eigenvalue >1 (Cronbach's alpha = 0.93).

New resources and capabilities (NERAC). We used seven items based on new resources and capabilities drawn from Aragón-Correa and Sharma (2003), Christmann (2000) and Hart (1995). Managers had to evaluate if new resources and capabilities had developed in the firm as a consequence of the adoption of a proactive environmental management (1 = 'strongly disagree', 7 = 'strongly agree'). A factor analysis was carried out of those items, resulting in one factor with eigenvalue >1 and Cronbach's alpha = 0.92.

Competitive advantage (CA). We considered two groups of items to measure that variable: *competitive advantage on costs (CAC)* (four items) and *competitive advantage in differentiation (CAD)* (five items), which were drawn from Christmann (2000), Karagozoglu and Lindell (2000) and Wagner and Schaltegger (2004). Through a 7-point Likert scale, managers rated respective organization's competitiveness relative to that of other firms in the sector. A factor analysis was carried out on the data for the items of competitive advantage on costs, resulting in one factor with eigenvalue >1 and Cronbach's alpha = 0.78. In relation to the competitive advantage in differentiation, again one factor was found in the factor analysis, with eigenvalue >1 and Cronbach's alpha = 0.86.

Financial performance (FP). We tested the model using a perceptual measure with three items (added value growth, economic and financial profitability) in which, through a 7-point Likert scale, managers rated their respective organization's performance relative to that of other firms in the sector. Exploratory principal

components analysis with varimax rotation of those items showed that they formed only one factor with eigenvalue >1 (Cronbach's alpha = 0.72).

Control variable. Size (*SIZE*) was considered as a control variable. The logarithm of a firm's number of employees was used to measure *SIZE*.

ANALYSIS AND RESULTS

We used structural equation modelling (LISREL 8.5) to examine our hypotheses, with maximum likelihood with robust estimators (Satorra and Bentler 1994) as a method to estimate the parameters, because multivariate normal distribution was no longer valid and the measurements for some variables were not continuous. Our input matrix was the asymptotic variance–covariance matrix. We take LEG, STAKE — degree of pressure exerted by stakeholders, STAKE — level of collaboration, R&C — involvement of the management, R&C — employees' learning and knowledge and R&C — speed and flexibility to introduce changes to adapt to the environment as exogenous latent variables; and MAN, EM, NERAC, CAC, CAD and FP as endogenous latent variables.

Table 2 presents the means, standard deviations, reliability coefficients and correlations among the variables. Looking only at the high correlations between the dimensions we may highlight the relationships between the resources and capabilities dimensions. There are significant high and positive relationships between 'R&C — involvement of the management' and the dimensions 'R&C — employees' learning and knowledge' and 'R&C — speed and flexibility to introduce changes to adapt to the environment'. The actions and degree of involvement of the top management in the firm's operations are related to the learning and knowledge of employees and the speed and flexibility with which the firm carries out changes to adapt to new environmental conditions. These results are as predicted and are consistent with prior research findings (González-Benito and González-Benito, 2005). Environmental management dimensions have also high and

Table 2. Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Size	3.49	0.93	—															
2. Environmental regulation	3.19	1.01	−0.25**	0.61														
3. Stakeholders — degree of pressure exerted by stakeholders	2.15	1.00	0.09	0.02	0.61													
4. Stakeholders — level of collaboration	4.80	1.20	0.06	−0.10	0.55**	0.89												
5. R&C — involvement of the management	5.60	0.76	0.01	−0.22**	−0.03	0.08	0.81											
6. R&C — employees' learning and knowledge	3.33	0.79	0.02	−0.127	0.09	0.18**	0.53**	0.77										
7. R&C — speed and flexibility to introduce changes to adapt to the environment	4.77	0.78	0.13(*)	−0.149*	0.04	0.09	0.53**	0.60**	0.76									
8. Managerial interpretation	5.77	0.771	0.08	−0.239**	−0.17**	−0.03	0.32**	0.20**	0.35**	0.80								
9. Environmental management — knowledge and learning	5.62	0.77	0.27**	−0.218**	−0.06	0.10	0.44**	0.42**	0.45**	0.41**	0.93							
10. Environmental management — relationships with stakeholders	4.43	0.78	0.21**	−0.17**	0.03	0.25**	0.34**	0.37**	0.40**	0.28**	0.81**	0.89						
11. Environmental management — technical aspects	6.01	0.67	0.24**	−0.17**	−0.06	0.07	0.43**	0.38**	0.42**	0.38**	0.74**	0.65**	0.89					
12. Environmental performance	5.67	0.70	0.13*	−0.19**	−0.10	0.02	0.37**	0.27**	0.40**	0.37**	0.74**	0.63**	0.62**	0.93				
13. New firm resources and capabilities	4.59	0.77	0.18**	−0.16*	−0.03	0.21**	0.40**	0.41**	0.42**	0.34**	0.89**	0.87**	0.70**	0.69**	0.92			
14. Competitive advantage on costs	2.93	0.72	0.08	−0.00	0.08	0.11	0.02	0.13*	0.08	−0.00	0.04	0.12	0.15*	−0.06	0.11	0.78		
15. Competitive advantage in differentiation	5.39	0.67	0.15*	−0.16*	−0.00	0.13*	0.30**	0.29**	0.33**	0.39**	0.56**	0.57**	0.54**	0.53**	0.60**	0.22**	0.86	
16. Financial performance	3.53	0.75	0.14*	−0.08	0.07	0.16*	0.14*	0.31**	0.25**	0.18**	0.23**	0.25**	0.26**	0.15*	0.26**	0.52**	0.33**	0.72

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Scale reliabilities (composite reliability) are on the diagonal in boldface. R&C, resources and capabilities; SD, standard deviation.

Table 3. Fit statistics for the measurement model

	χ^2 Satorra– Bentler (df) <i>p</i> value	RMSEA	90% confidence interval for RMSEA	GFI	AGFI	NFI	NNFI	CFI	NC (χ^2 /df)
LEG	0 (1)/1	0	—	1	1	1	1	1	—
STAKE	6.89 (4)/0.14	0.05	(0.0; 0.123)	0.98	0.93	0.98	0.97	0.99	1.72
R&C	20.99 (17)/0.23	0.03	(0.0; 0.07)	0.97	0.94	0.97	0.98	0.99	1.23
MAN	4.83 (4)/0.304	0.03	(0.0; 0.106)	0.99	0.96	0.98	0.98	0.99	1.20
EMORG	145.25 (76)/0.00	0.06	(0.046; 0.077)	0.89	0.85	0.92	0.94	0.95	1.91
EMTEC	12.11 (8)/0.146	0.04	(0.0; 0.096)	0.97	0.93	0.97	0.97	0.98	1.51
ENP	4.31 (9)/0.89	0.0	(0.0; 0.033)	0.99	0.97	0.99	0.99	1	—
NERAC	5.26 (5)/0.385	0.01	(0.0; 0.092)	0.98	0.96	0.99	0.99	0.99	1.05
CAC	0 (1)/0	0	—	1	1	1	1	1	—
CAD	3.49 (2)/0.17	0.05	(0.0; 0.152)	0.99	0.95	0.99	0.98	0.99	1.74
FP	0 (1)/0	0	—	1	1	1	1	1	—

Variables = SIZE (control variable): ln (employees); LEG, environmental legislation; STAKE, stakeholders; R&C, complementary resources and capabilities; MAN, managerial perceptions about the natural environment as a competitive opportunity; EMORG, environmental management — organizational aspects; EMTEC, environmental management — technical aspects; ENP, environmental performance; NERAC, new resources and capabilities; CAC: competitive advantages on costs; CAD, competitive advantages in differentiation; FP, financial performance.

We have used three indicators to represent the scales LEG, CAC and FP; therefore, there are not enough degrees of freedom to estimate the model. With the purpose of obtaining degrees of freedom, we fixed the regression coefficient of the first variable at 1. This permitted to calculate the goodness-of-fit indicators, which showed a perfect fit $\chi^2 = 0$, $df = 1$; GFI, AGFI, NFI, NNFI, CFI = 1; RMSEA = 0).

AGFI, Adjusted Goodness of Fit Index; CFI, Comparative Fit Index; DF, Degrees of Freedom; GFI, Goodness of Fit Index; NFI, Normed Fit Index; NNFI, Non-Normed Fit Index; RMSEA, Root Mean Square Error of Approximation.

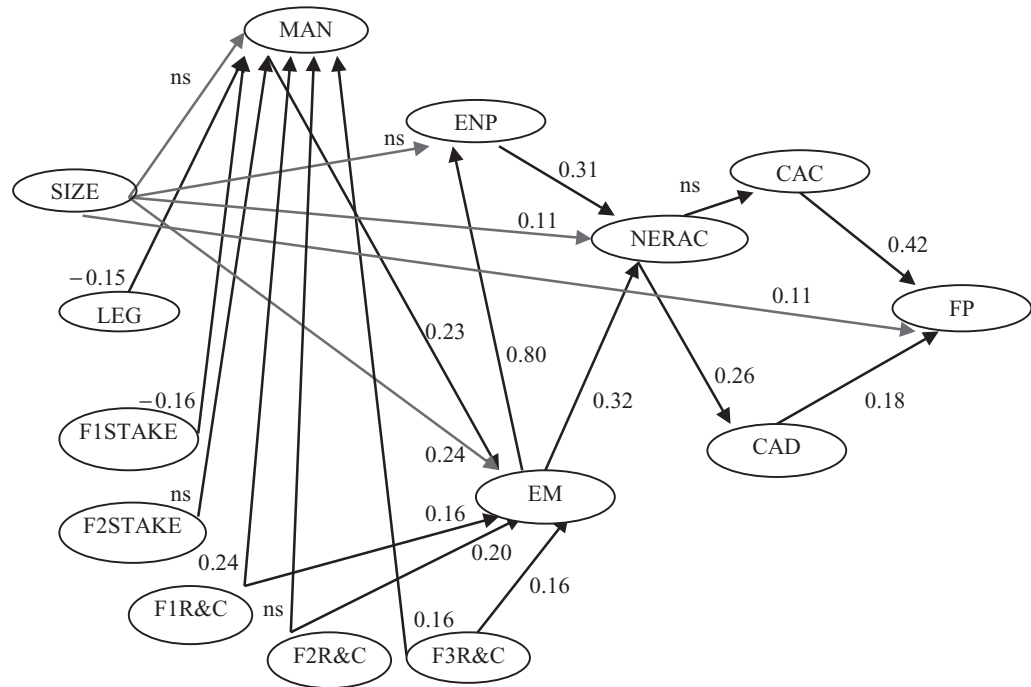
significant correlations between them. The relationship between the two types of organizational aspects is strong, implying that if there is link between the firm and its stakeholders during the development of the organization's environmental management strategy they are likely to regard knowledge and learning in the development of environmental practices as valuable. Discriminant validity is measured calculating the reliability coefficients of the concepts and comparing them to the bivariate correlation between pairs of constructs. All reliability coefficients exceeded the recommended 0.6 level and were greater than the correlation between the two constructs of interest.

The process of testing the measurement model is basically a confirmatory factor analysis (CFA) task, based on the knowledge of theory and empirical research, the hypotheses linking the observed measures and the underlying factors postulated *a priori* is being statistically tested. CFA was conducted to assess model fit (Jöreskog and Sorbom, 1993) for the measurement model. The fit statistics for the measurement model given in Table 3 indicate

that the measurement model fits the data well. Furthermore, the measures of error were uncorrelated, allowing progression to the next stage of the Structural equation modeling (SEM) process.

Seeking to reduce the number of parameters to estimate, we resorted to the formation of compound variables, so that a single indicator resulting from the sum of all parameters could determine each factor (Landis *et al.*, 2000). Environmental management was the only variable that was considered through three indicators as a result of three factors (F1 EMORG, F2 EMORG and EMTEC). Each of these indicators was also resulting from the sum of all indicators that could determine each factor.

Final results of this model revealed that each final item significantly loads on its respective construct showing high convergent validity of the measurement scale for each construct. The hypothesized model provided an acceptable fit to the data. The Chi-square was significant ($\chi^2 = 116.74$, $df = 67$, $p = 0.000$) and fit indices clearly exceeded the preferred 0.90 threshold



Variables = SIZE (control variable): ln (employees); LEG: environmental legislation; F1STAKE: degree of pressure exerted by stakeholders; F2STAKE: level of collaboration; F1R&C: involvement of the management; F2R&C: employees' learning and knowledge; F3R&C: speed and flexibility to introduce changes to adapt to the environment; MAN: managerial perceptions about the natural environment as a competitive opportunity; EM: environmental management; ENP: environmental performance; NERAC: new resources and capabilities; CAC: competitive advantages on costs; CAD: competitive advantages in differentiation; FP: financial performance.

Figure 2. Standardized LISREL path coefficients ($p < 0.05$).

(RMSEA = 0.05, GFI = 0.938, NFI = 0.919, CFI = 0.957). All of the modification indices for the beta pathways between major variables were small, suggesting that adding additional paths would not significantly improve the fit. The estimated standardized path coefficients between endogenous and exogenous variables are illustrated in Figure 2.

The results indicate that environmental legislation and the pressure of stakeholders influence negatively in managerial perception, the sign of these relationships are different from the ones we had proposed, thus, **Hypothesis 1** and **Hypothesis 2a** are not supported. The effect of the stakeholders' collaboration is not significant, not supporting **Hypothesis 2b**.

In relation to **Hypothesis 3**, there is a positive effect of available resources and capabilities and the managerial perception. Consequently, this hypothesis is supported. Moreover, when

higher is the degree to which the manager sees the natural environment as a competitive opportunity, higher is the likelihood of developing a proactive environmental management, thus, **Hypothesis 4** is supported.

Regarding **Hypothesis 5**, when the availability of complementary resources and capabilities in the firm is greater, higher is the likelihood of developing a proactive environmental management. Thus, this hypothesis is also supported. We also find a statistically significant relationship between proactive environmental management and the improvement of the environmental performance, supporting **Hypothesis 6**.

In relation to **Hypothesis 7** and **Hypothesis 8**, there is a positive effect of proactive environmental management and environmental performance on differentiation competitive advantage (but not in costs) and that effect

depends on the resources and capabilities which have been generated through the proactive environmental management. Consequently **Hypothesis 7a** and **Hypothesis 8a** are not supported, and **Hypothesis 7b** and **Hypothesis 8b** are supported. Results also show that there is a significant and positive effect of competitive advantage on financial performance, supporting **Hypothesis 9a** and **Hypothesis 9b**. Finally, in relation to the SIZE (control variable), it has only a significant influence on the development of a more proactive environmental management. A discussion of these results follows.

DISCUSSION AND CONCLUSIONS

Research on the response of firms to environmental concerns has mainly focused on the manufacturing industry. The impact caused by the hotel industry is not so visible, which is why these organizations have attracted much less research attention. Our paper is a step towards a better understanding of the environmental peculiarities of the hotel industry. We would like to emphasize the following results. Good business and sustainable development go hand in hand. Managers' commitment to contribute to sustainable development holds the key to long-term business success and could become a source of competitive advantage. These perceptions are behind the adoption of an environmental management scheme with a stronger focus on proactive techniques. Environmental legislation, stakeholders, as well as the amount and type of resources and capabilities available to the organization may influence the managerial perception of the natural environment. Once the firm assumes its environmental responsibility, there is no reason why it should limit its organizational capacity when applying proactive environmental initiatives to improve its competitiveness. Thus, the resource-based view mediates the positive relationships of proactive environmental management and improved environmental performance with competitive advantage and financial performance. Next, we are going to provide discussion and implications of each relationship showed in the whole model.

Environmental legislation has a negative significant influence on managerial perceptions about the natural environment. Unlike the research conducted with Spanish manufacturing industries, which reveals government and public regulations as the most important reason to invest in environmental issues (Rivera-Camino, 2001), the hotel industry has relatively little legislative pressure (Ayuso, 2006). Moreover, this legislation stems from a control logic (López-Gamero *et al.*, 2009). The cost involved in complying with environmental requirements when the firm's main concern is the development of corrective, end-of-process actions provokes an increase of the total cost incurred in the development of the whole infrastructure that is necessary for the firm to adapt to the new regulatory criteria. Because command-and-control regulations conform to engineering rather than to business standards, they induce unnecessary capital investments and prevent good settling decisions (Tarui and Polasky, 2005). For this reason, legislators should anticipate how the regulation might affect not only current emission levels, but also the investment in Research and Development (R&D) by regulated firms. Moreover, the provision of education and information on environmental protection must be the result of the joint, co-ordinated efforts of the public sector and the hotel industry (Shunnaq *et al.*, 2008), always seeking to increase the level of awareness on the most relevant issues and on the possible methods to assess activities and implement programmes, showing the best practices and introducing training courses both for the management and for the staff (Stabler and Goodall, 1997).

Regarding stakeholders, their pressure has a significant negative effect on the perception of managers about the environment as a competitive opportunity. Regarding the degree of collaboration in environmental issues, it is not significant. Customers and tour operators are the most influential pressure groups inside a hotel (Curtin and Busby, 1999; Ayuso, 2006). Nevertheless, tourists do not discriminate between hotels according to environmental practices, but they discriminate depending on the quality of the service offered, to such an extent that some authors argue that the implementation of certain environmental practices

has as its aim to 'disguise' a cost-saving policy (Font and Tribe, 2001). Tour operators only show an interest in environmental issues when they work with customers from Central and Northern Europe (Ayuso, 2006), and most of the tourists in Spain are British and Spanish. This low valuation can make managers reach the conclusion that meeting the demands of their stakeholders will most probably reduce their competitiveness levels with respect to other hotels which, in the absence of environmental practices, can offer their services at a more competitive price to a customer who is currently not very aware of these issues. Moreover, previous interviews and observations made in our study show that the participation of customers in environmental issues is low, similar to Enz and Siguaw's (1999) study. It basically consists in completing questionnaires. Tourists have quite often hindered the adoption of new environmental practices since they believed that those practices might reduce the service quality delivered by the hotel (Claver *et al.*, 2007). Decision-making and development processes require stakeholders' involvement at all planning levels. For this reason, tourists, residents and professionals should count on an interpretative service based on environmental education (Holden and Sparrowhawk, 2002). Ayuso (2006) and Zhu *et al.* (2008) observes that stakeholders generally respond with higher motivation to environmental practices after an education period. This measure could raise the quality of the experience and help them develop greater awareness on the conservation and protection of resources (Tsaur *et al.* 2006). For example, Ayuso (2006) observes that employees generally respond with higher motivation to environmental practices after an education and training period.

In relation to the link existing between complementary resources and capabilities and the managerial attitude, managers see the hotel's capability to adapt quickly and flexibly to the changes operated in the environment as an important asset. This finding also resulted from the study by Bansal (2005). Managers are willing to incorporate environmental measures because they think that environmental consciousness will increase, resulting in varying tourist demand through better quality, and competition between destinations will proba-

bly change the current context (Mihalic, 2000). The success of this change will depend on the capability to adapt to the new situation, that is, on the possibility to have an easy access to the information related to these practices, and on the know-how available in the organization that may serve to develop the new tasks or processes (Zhu *et al.*, 2008). In essence, managers should introduce in-depth changes in the routines and management style, and success will consequently depend on the commitment to implement environmental strategies and develop learning processes.

It also seems that proactive environmental management leads to improved environmental performance. Our results coincide with those found in previous research studies (e.g. Zhu and Sarkis, 2004). A good measure to guarantee an improved measurement and management of environmental performance within the hotel should be the diffusion of information on good environmental practices, not only regarding technical product and process innovation but also in management practices.

Similar to Aragón-Correa and Sharma (2003), we have checked that the attitude and perceptions of managers appear as essential factors for the investment in proactive environmental technologies. Managers therefore have a chance to influence the degree of environmental commitment of their organization, where external and internal pressures are important and sometimes very strong (Aragón-Correa *et al.*, 2004). Fraj-Andrés *et al.* (2008) indicate that managers' involvement with environmental issues is intensive in firms that perceive environmental regulations as a threat. This confirms the results of our study. Managers should take two aspects into account when they make estimates about the evolution of proactive environmental management in the firm. Firstly, being the first to adopt environmental practices allows managers create new barriers to imitation, such as the possibility of influencing the policy process (Cho *et al.*, 2006), and to simultaneously attract consumers who share environmental values to some extent and consider them in their decision-making. Secondly, managers should consider aids and subsidies that they can receive from the authorities, the possible low-interest financing offered by

some financial institutions for the development of proactive technologies, and also the reduction in their insurance premiums as a result of the diminished environmental risk. This is a method to alter the 'incentives' for firms to behave environmentally (Baumol and Blackman 1991). Moreover, this incentive-based approach to the business environment can be immensely useful for regulators to guarantee observance of environmental behaviour by firms (Kulshreshtha, 2007).

With regard to the mediating role of the resource-based view in the relationship of proactive environmental management and environmental performance with competitive advantage, we have checked, similar to Galdeano-Gómez *et al.* (2008) and Sharma and Vredenburg (1998) found in their studies, that investment in pollution proactive practices and environmental performance improvements contribute to the development of valuable capabilities that largely favour the achievement of a differentiation competitive advantage. These results show that managers do not report any major changes in the cost position relative to key competitors, but firms investing in environmental improvements have to some extent gained a stronger reputation among customers. Although there have been advances in products and processes, the more significant effects seem to have appeared in marketing and image building — a finding obtained by Lindell and Karagozoglu (2001) as well. Thus, managers have excellent opportunities to establish a close link with customers and other stakeholders with a view to develop loyalty and legitimacy based on ecological preservation (Dinan, 2000), which in turn will most probably lead to a differentiation competitive advantage (Sharma *et al.*, 2007).

Best practices aimed at larger investments or higher added values, as well as the adoption of formal certification systems, have a tangible cost for the hotels. At the moment, firms see these costs as investments not leading to competitive advantages. Thus, the implementation of more costly practices will largely depend on the availability of sufficient financial and human resources and public funding to implement environmental management systems and certify for the eco-label (Ayuso, 2006). In this

sense, managers in the hotel industry ought to augment organizational capabilities such as continuous innovation, employee motivation, and stakeholder involvement, as this will help them reach cost competitive advantages.

Competitive advantage has a positive effect on financial performance. These results are relevant because they show that the ultimate consequence of any competitive advantage derived from proactive environmental management is an improved financial performance (González-Benito and González-Benito, 2005). This relationship also appeared in studies by Claver *et al.* (2007) and Lindell and Karagozoglu (2001). Thus, managers should invest in environmental management because the adoption of environmental measures might help differentiate them from their less environmentally friendly competitors and thus lead to higher returns. For instance, hotels can achieve a market advantage by defining the environmental profile of their services, thereby contributing to the general attributes of the tourism product.

Finally, some limitations and future research lines should be noted. Firstly, since this research paper relies heavily on self-reported measurements provided by firm managers, future research works could add to the confidence place in the results reported here by replicating this study with more direct objective measurements of the theoretical constructs. Even so, in relation to environmental management, this alternate approach may also be inadequate since it may not fairly reflect a firm's overall environmental management due to its multidimensional nature. As Griffin and Mahon (1997) explicitly discuss in their studies, environmental management is a 'social performance' variable. Secondly, it would be interesting to establish causal interrelationships between the factors considered in the study: for instance, environmental legislation may influence the pressure exerted by stakeholders on the firm; or the availability of certain resources and capabilities is likely to facilitate legislative compliance, among other things. Possibly, the results obtained will only be valid for the hotel industry examined in the Spanish context. That is why a future line of research could also be to extend the analysis to other countries.

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