

Environmental strategies and organizational competitiveness in the hotel industry: The role of learning and innovation as determinants of environmental success



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HIGHLIGHTS

- Learning oriented hotels are more likely to deploy a proactive environmental strategy.
- Innovative hotels are more proactive in their environmental strategies.
- Proactive environmental strategy positively affects organizational competitiveness.
- Innovative hotels perform better than non-innovative hotels.
- Learning orientation requires complementary capabilities to influence performance.

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ABSTRACT

This paper examines the links between proactive environmental strategies, organizational capabilities and competitiveness. A model is proposed and tested using a sample of 232 Spanish hotels. An orientation for learning and innovation are conceived not only as drivers for adopting pro-environmental policies, but also as determinants of competitiveness. Data are analyzed through the use of partial least squares. The findings confirm that a proactive environmental strategy and innovation favor organizational competitiveness. However, a learning orientation does not directly predict organizational competitiveness. The paper discusses both conceptual and practical implications for the development of successful hotel operations and management.

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1. Introduction

Organizations currently represent a major threat to the natural environment due to the great quantity of waste generated, and their elevated consumption of resources. However, they are also key players in environmental protection. Social awareness of environmental issues, along with regulatory and competitive changes, have led organizations to modify their attitude toward sustainability issues. Many organizations have moved forward from reactive and short-term approaches to solving environmental inefficiencies, to proactive and innovative environmental behaviors. These proactive approaches are embedded in organizational

competencies that may drive companies to obtain competitive advantages (Clarkson, Li, Richardson, & Vasvari, 2011; Hart, 1995; López, Molina, & Claver, 2009).

Nevertheless, the transition from reactive to proactive approaches involves complex organizational changes that do not always result in business success (Aragón-Correa & Rubio, 2007). Environmental proactivity requires firms to prevent environmental degradation by continuously modifying products, processes and technologies. In this process of continuous adaptation, companies must deploy complementary skills and competencies; however, these have been absent from previous research (Sarkis, González-Torre, & Adenso-Díaz, 2010). As recently highlighted by Delmas, Hoffmann, and Kuss (2011, p. 141), “by studying the link between proactive environmental strategies and competitive advantage independently from the firms’ more general organizational capabilities, researchers might just be looking at the tip of the iceberg and missing the most fundamental element of the success of proactive environmental strategies”. Among these capabilities,

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learning orientation and innovativeness can contribute to the successful implementation of a proactive environmental strategy (PES). On the one hand, learning orientation allows firms to create an applicable knowledge that can reduce uncertainty in environmental decision-making (Sharma & Vredenburg, 1998). On the other hand, innovativeness provides the organization with the required experience for generating the new ideas, products and operational modifications that PES requires (Sharma, Aragón-Correa, & Rueda, 2007).

However, empirically little is known about how different organizational skills facilitate the implementation of proactive environmental activities, and about how these capabilities favor organizational performance (Delmas et al., 2011). This is especially relevant in the hospitality industry, where few papers have explored the relationships between organizational and environmental capabilities with competitive performance. Indeed, this industry is of particular interest given the high visibility of hotels' strategies. This high exposure allows competitors to easily copy service innovations (González & León, 2001). In addition, this sector is extremely intense in terms of energy and water consumption, utilization of paper, plastics and chemicals, and biodiversity affectation (Erdogan & Baris, 2007; Trung & Kumar, 2005). Therefore, organizations within the sector present a great potential to improve their environmental performance (Álvarez, de Burgos, & Céspedes, 2001). Additionally, hotel organizations are increasingly dependent on their ability to acquire internal and external knowledge (Pyo, Uysal, & Chang, 2002). This knowledge is essential to respond effectively to stakeholders' expectations, and to environmental changes. Finally, the hotel industry is a key sector in many developed and undeveloped economies in which advantages in innovation and knowledge management play a critical role in organizational success (Hjalager, 2010; Nieves & Haller, 2014).

Consequently, the aim of this study focuses on two issues. First, it analyzes the influence of organizational capabilities on the implementation of a PES. Second, it explores the different paths of influence of these capabilities in relation to organizational performance. The contributions of this study can be summarized from two perspectives. From an academic position, this work will expand existing knowledge about the organizational capabilities in which PES is embedded, and about the combination of capabilities that lead organizations to achieve competitive advantages. From a managerial perspective, it will help practitioners in the hospitality industry to identify the capabilities that are critical for the successful implementation of PES. A lack of knowledge about these conditions could adversely affect organizational competitiveness (Delmas et al., 2011).

This study is organized as follows. In the next section, we describe the theoretical framework and present the research hypotheses. Subsequently, we discuss the research methodology by describing the data collection and the measurement of variables. Then, we present the results analysis. The paper concludes with a discussion of the main findings, the limitations and directions for future research.

2. Theoretical framework and hypotheses development

2.1. Proactive environmental strategy as a dynamic capability

The dynamic capabilities view of the firm states that competitive advantages depend not only on the development of critical capabilities, but also on the organizational ability to continuously “create, extend, upgrade, protect, and keep relevant the enterprise's unique asset base” (Teece, 2007, p. 1319). Under this view, dynamic capabilities enable an organization to rapidly and efficiently adapt to changing markets and technologies, learn from this process,

and ultimately renew its competencies over time (Teece, 2007; Teece, Pisano, & Shuen, 1997; Wang & Ahmed, 2007). In recent decades, the natural environment has modified the global competitive scenario, and companies are required to reconsider their roles in the preservation of natural resources. New environmental regulations, along with increasing demands from diverse stakeholders, such as customers or non-profit organizations, have increased firms' interest in reducing their ecological footprint (Sharma & Vredenburg, 1998). However, not all organizations have reacted in a similar way. Managerial approaches toward environmental issues are heterogeneous because they depend on a plethora of determinants, such as managerial values, organizational resources, or market and industry conditions (Aragón-Correa & Sharma, 2003; Delmas et al., 2011). These approaches have frequently been categorized in a linear manner that ranges from reactive to proactive behaviors. Reactive behaviors are short-term-focused solutions that mainly aim to adapt the organizational strategy to environmental regulations (i.e. installation of end-of-pipe solutions). Conversely, proactive approaches require firms to voluntarily go beyond regulations, and to implement actions to prevent environmental pollution, reduce waste, or minimize water and energy consumption (i.e. environmental life-cycle analysis) (Aragón-Correa, 1998). PES implies that the organization is fully committed to solving its environmental problems through the development of innovative practices (Buysse & Verbeke, 2003; Christmann, 2000). Hart (1995) affirmed that PES offers companies competitive advantages because it allows firms to deploy rare, unique, and complex capabilities that are hard to imitate.

Aragón-Correa and Sharma (2003) expanded Hart's view and argued that PES is a dynamic capability that allows organizations to evolve and align their strategy with the changing and uncertain environment. PES involves the implementation of innovative environmental modifications in multiple organizational areas that are dependent on identifiable processes, such as prevention technologies, eco-design or reverse logistics. PES is also connected to complementary capabilities, such as continuous innovation, generative learning, or stakeholders' integration ability. These capabilities are tacit, firm-specific, socially complex, and linked to differentiation and cost advantages. PES is also idiosyncratic in its details (Aragón-Correa & Sharma, 2003). While reactive strategies involve the implementation of standardized and easy-to-copy solutions, proactive strategies depend on managerial discretion and interpretation of environment issues as opportunities (Majumdar & Marcus, 2001). In addition, PES is non-replicable and non-imitable, since it requires not only a logical sequential process in reconfiguring resources, but also the commitment, involvement and coordination of organizational members (Sharma & Vredenburg, 1998).

Recently, Teece (2007) noted that dynamic capabilities can be decomposed into the company's ability to: “sense and shape” the existence and nature of environmental threats and opportunities; “to seize” these opportunities; and to “maintain” competitiveness through reconfiguring and enhancing organizational resources. Hence, sustainable advantages are determined by organizational excellence in the integration and coordination of organizational core competencies. Frequently, proactive companies internally “sense and shape” environmental opportunities by exploring innovative paths to preventing environmental inefficiencies in operational processes (Hanna, Newman, & Johnson, 2000). These opportunities may also arise through cooperation with external stakeholders that serve as a pool of knowledge for environmental best practices (Rueda, Aragón-Correa, & Sharma, 2008). Once opportunities are detected, proactive organizations seize them through new business models, products, services or technologies. For example, Fairmont Hotels collaborated with the US

Environmental Protection Agency and WWF in order to create a “Green Partnership” to implement a more sustainable business model (Graci & Doods, 2008). Finally, PES requires the firm to continuously reconfigure and recombine resources in order to guarantee evolutionary fit. For example, a hotel can sustain PES by creating cross-functional teams that include organizational members from different areas and departments (Enz & Siguaw, 1999). These teams allow organizations to improve internal dialog and reduce employees’ reluctance to change, thus contributing toward gradually changing structures and routines (Denton, 1999).

Logically, the structural complexity that characterizes PES (González-Benito & González-Benito, 2005) requires identification of the combination of resources and skills that will favor organizational fit to the natural environment. Within this context, innovation and learning competencies are instrumental in the identification and exploitation of environmental threats and opportunities (Majumdar & Marcus, 2001). For example, the adoption of pollution-prevention technologies usually requires: functional coordination and highly involved employees; a culture that is oriented to the generation and dissemination of knowledge; and organizational modifications in terms of dominant logics to promote service innovations (Hart, 1995; Sharma & Vredenburg, 1998). Thus, learning orientation and innovativeness can help firms to modify organizational processes and products in order to prevent environmental inefficiencies. Besides, these are valuable capabilities that will allow organizations to improve their competitiveness.

2.2. *The relationship between learning orientation, innovativeness and PES*

Learning is essential for an organization to efficiently adapt to new environmental conditions (Brown & Eisenhardt, 1997) and generate long-term value over competitors (Kandemir & Hult, 2005). Organizational learning occurs when organizational members interact with the environment, observe the consequences of such interactions, and update their beliefs about cause–effect relationships (Lee, Courtney, & O’Keefe, 1992). However, in order to learn, an organization needs to eradicate obsolete knowledge and overcome barriers to the acquisition of new information (Baker & Sinkula, 1999). In other words, in order to generate valuable higher-order learning, an organization needs to support an organizational culture that fosters individual and collective absorption of knowledge. Therefore, learning orientation is conceived in previous research as an organizational asset that reflects “*the degree to which an organization is satisfied with its theories in use, mental models, and dominant logics (...) and that encourage, or even require, employees to constantly question the organizational norms that guide their activities and organizational actions*” (Baker & Sinkula, 1999, p. 413).

Calantone, Cavusgil, and Zhao (2002) argue that learning orientation is composed of four dimensions: commitment to learning; intra-organizational knowledge sharing capability; shared vision; and open-mindedness. These dimensions reflect the values that are intrinsically associated with organizational learning capabilities. Commitment to learning reflects organizational consideration of learning as a strategic asset. Committed organizations promote higher-order learning, see it as an investment and are interested in continuously creating and disseminating updated knowledge (Calantone et al., 2002). Intra-organizational knowledge sharing is connected to the firm’s interest in keeping alive the knowledge that can be useful in future decision-making. It involves organizational routines and structures that favor knowledge dissemination across members (Lukas, Hult, & Ferrell, 1996), such as the existence of cross-functional teams and the organization of regular meetings (Moorman & Miner, 1998). Shared vision refers to

a set of assumptions that are held by all organizational members (Verona, 1999). It implies a communal commitment to the organization’s future, and drives employees to work in the same direction. Open-mindedness is closely related to the notion of “unlearning”. It is defined as the company’s willingness to critically evaluate its knowledge and routines, and to assume a need to change obsolete mental models (Sinkula, Baker, & Noordewier, 1997). In a turbulent and competitive scenario, knowledge can quickly become outdated and, therefore, open-mindedness can generate creative ideas by which to solve problems (Mitchell & Nicholas, 2006).

Regarding the relationship between learning orientation and PES, previous research suggests that firms with greater learning competencies are more prepared to develop a PES (Aguilera, Hurtado, & Aragón-Correa, 2012). Contrary to reactive postures, PES involves the introduction of complex changes in processes and products (Sharma & Vredenburg, 1998). These changes require the unlearning of existing beliefs that guide the dominant logics, and that can prevent the assimilation of new knowledge (Halme, 2002; Roome & Wijen, 2006). For example, PES involves establishing new partnerships with stakeholders for technology development; integrating environmental issues within the strategic planning process; using new materials in operations; modifying logistics processes, etc. As suggested by Delmas et al. (2011), because PES spans multiple fields of expertise, firms with higher levels of learning capabilities will be more likely to assimilate and exploit knowledge related to the environment, compared to firms with weaker learning skills.

Previous research also supports the positive influence of learning orientation values on PES. For example, knowledge-absorptive capability stimulates PES by enabling employees to update knowledge that is applicable to environmental decision-making, and by facilitating the assimilation of cultural changes (Pinske, Kuss, & Hoffmann, 2010). The implementation of formal and informal mechanisms by which to share knowledge also facilitates managers and employees to share information, ideas and opinions that are critical for environmental innovations (Sharma, Pablo, & Vredenburg, 1999). PES is also reinforced by the shared-vision capability: if employees see themselves as partners in charting the direction of the organization, discrepancies about “what to do” and “how to do it” concerning environmental initiatives will decrease (Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales, 2008). Consequently, the implementation of an environmentally proactive capability requires the organization to create an internal climate that is oriented to learning (Roy & Therin, 2008). Thus, it is hypothesized that in the hotel industry:

H1. Learning orientation positively influences proactive environmental strategy.

Innovations allow companies to adapt their strategy to market changes, and are thus of critical importance for creating organizational value (Stieglitz & Heine, 2007). Innovation is defined as the organizational ability to adopt and successfully implement new ideas, products and processes (Hurley & Hult, 1998). The literature distinguishes different stages in the innovation process; this suggests that for organizations to succeed in the development of innovations, they must initially foster an organizational climate that is oriented toward innovation, and open to changes (Van de Ven, 1986). Thus, many authors use the term “innovativeness” to refer to organizational cultures that encourage the acceptance of changes and new routines, the assumption of a certain degree of risk, and the identification of internal and external opportunities (Hurley & Hult, 1998; Tajeddini, 2010).

Logically, the development of PES requires firms to be open to new ideas, products, processes and technologies, to assume some risks, and to be proactive in the search for environmental solutions

(Menguc & Ozanne, 2005; Roehrich, 2004). Indeed, Hart (1995) stated that the success of pioneering environmental strategies depends on the firms' willingness to continuously evolve and innovate. Companies that are open to innovations will also be more prepared to develop superior knowledge about products, processes and technologies. This knowledge will enable them to more efficiently align their strategy with the alterations involved in PES (Ziegler & Nogareda, 2009). For example, Clarkson et al. (2011) found that managerial teams with innovation-oriented cultural traits are more willing to pursue environmental excellence. The integration of environmental issues within organizational routines can also generate conflict and resistance from employees (Anton, Deltas, & Khanna, 2004). Companies that promote the development of innovations will be more prepared to find new ways to exploit and reconfigure their resources and, consequently, to overcome potential internal barriers to PES (Sharma et al., 2007). Consequently, PES requires the firm to have an internal culture that is oriented to innovation, through which employees are involved in the exploration of new ideas (Sharma & Vredenburg, 1998). Coherently with previous research, we propose that in the hotel industry:

H2. Innovativeness positively influences proactive environmental strategy.

The relationship between learning and innovation has been widely studied in previous research in different contexts and industries (Aragón-Correa, García, & Córdón, 2007; Baker & Sinkula, 1999; Calantone et al., 2002; Mavondo, Chimhanzi, & Stewart, 2005; Jiménez-Jiménez & Sanz-Valle, 2011; Salavou, 2005). Innovation allows organizations to adjust their strategies to environmental changes by developing new products, or by modifying and accepting new internal processes (Tajeddini, 2010). In order to successfully carry out this adjustment process, organizations must undertake knowledge-building mechanisms to facilitate collective learning, and elicit the assimilation of new ideas and mental models (López, Santos, & Trespalacios, 2010).

According to Calantone et al. (2002), the influence of learning orientation on innovativeness is manifested in three ways. First, learning-oriented firms are characterized by a greater attention to technological changes. Thus, they will be more willing to develop and commercialize innovations. Second, these companies will be more likely to seize market opportunities. The superior market knowledge of learning-oriented companies will allow them to understand and anticipate their customers' needs. Third, this market intelligence also contributes to a better understanding of competitors' strengths and weaknesses. Various studies confirm a positive relationship between learning orientation and innovativeness (Aragón-Correa et al., 2007; Jiménez-Jiménez & Sanz-Valle, 2011), including the hospitality industry. For example, Baum and Ingram (1998) revealed that the dynamic application of knowledge captured from related hotels stimulates innovation. Monica-Hu, Horng, and Christine-Sun (2009) found that, in order to achieve high service-innovation performance, tourist hotels first need to encourage knowledge-sharing behaviors and the creation of a team culture. In line with previous research, it is proposed that learning orientation positively influences innovativeness in the hotel industry:

H3. Learning orientation positively influences innovativeness.

2.3. *The influence of organizational capabilities on organizational competitiveness*

Previous research highlights the positive influence of learning orientation and innovativeness on organizational performance

(Baker & Sinkula, 1999; Hall & Williams, 2008; Nicolau & Santa-María, 2013; Pesämaa, Shoham, Wincent, & Ruvio, 2013). The adoption of an organizational learning culture challenges the organization to question its dominant logics and prevailing routines. Learning-oriented firms are able to accumulate and process valuable information from different external and internal sources (Sinkula et al., 1997). This fosters the creation of a collective knowledge that facilitates organizational flexibility and adaptation to environmental changes, which involves the creation of competitive advantages (Baker & Sinkula, 1999). Previous research also suggests that corporate success depends on innovation (Calantone et al., 2002). Innovativeness has often been shown as one of the most important strategic orientations required for firms to achieve long-term success (Noble, Sinha, & Kumar, 2002). Especially in turbulent and competitive scenarios, innovation allows companies to respond faster to environmental changes, and to exploit market and product opportunities (Brown & Eisenhardt, 1997; Lyon & Ferrier, 2002). The commercialization of innovations allows organizations to increase customers' value perceptions of new products and services, which negatively affects competitors' responsiveness (Sandvik & Sandvik, 2003).

The literature also empirically supports the positive effect of learning orientation and innovativeness on organizational results (Baker & Sinkula, 1999, 2002; Bontis, Crossan, & Hulland, 2002; Damanpour, 1991). Calantone et al. (2002) found that both innovativeness and learning orientation were positively related to competitive advantage. Recently, Jiménez-Jiménez and Sanz-Valle (2011) found that companies more intensely engaged in internally implementing learning processes were also more profitable. These authors also found that product, process and administrative innovations were positively related to organizational performance. Unlike Calantone et al. (2002), they found that the impact of innovativeness on organizational performance was stronger than the effect of learning orientation. In the hospitality context, Tajeddini (2010) found that innovative hotels achieved lower costs and higher-quality outputs. Tajeddini and Trueman (2012) also confirmed that innovativeness in the hospitality industry had a significant and positive impact on financial and marketing performance. However, in the hotel industry more research would be of interest, since few papers have explored these relationships to date. Hence, it is hypothesized that:

H4. Learning orientation positively influences organizational competitiveness.

H5. Innovativeness positively influences organizational competitiveness.

While there is consensus on the benefits of learning and innovation, the relationship between PES and organizational performance is still a perplexing issue in the literature. Findings and theoretical views are not conclusive about the competitive consequences of adopting innovative environmental solutions (Aragón-Correa & Rubio, 2007). Authors who sustain a negative or neutral link argue that PES requires large investments and complex organizational transformations that prevent the generation of positive cash-flows (Walley & Whitehead, 1994). These views are supported by empirical evidence that has shown either the lack of a relationship between environmental practices (Gilley, Worrell, Davidson, & El-Jelly, 2000; Thornton, Kagan, & Gunningham, 2003), or even a negative connection (Wagner, Van Phu, Azomahou, & Wehrmeyer, 2002). Nevertheless, recent research points to the existence of competitive advantages from the implementation of proactive initiatives (Delmas et al., 2011; Menguc, Auh, & Ozanne, 2010; Torugsa, O'Donohue, & Hecker, 2012). The source of these advantages lies in cost reductions and efficiency improvements derived from practices related to eco-design, substitution of

pollutant materials, or implementation of prevention technologies. These activities involve the utilization of less, cheaper and cleaner raw materials, or the reuse and recycling of outputs (Hart, 1995; Sharma & Vredenburg, 1998). Besides, environmental proactivity can contribute to sales growth through the generation of differentiation advantages (Delmas et al., 2011). The potential consequences of PES have also been examined in the hotel industry. Claver, López, Molina, and Tarí (2007) found that performance levels increase as environmental proactivity grows. However, these authors found that the degree of proactivity achieved by hotels was not a good predictor of organizational performance. Similarly, Álvarez et al. (2001) suggested a slight relationship between environmental management practices and financial performance. This link was stronger for proactive hotels than for reactive competitors. García and Armas (2007) found that return on average assets of Spanish hotels was positively correlated to their social and environmental strategies. Recently, Singal (2013), using longitudinal data, found that going green in the hospitality industry pays off in the long term, because customers are more likely to financially support sustainable hotels. In light of this empirical evidence, we propose that environmental proactivity can be beneficial to hotels:

H6. Proactive environmental strategy positively influences organizational competitiveness.

Fig. 1 summarizes the conceptual model that will be tested. It proposes that hotels with a stronger learning orientation and greater innovation capabilities will be more likely to develop a PES. Fig. 1 also suggests that learning orientation will have a positive effect in innovativeness. Finally, learning orientation, innovativeness and PES have a positive effect on organizational competitiveness.

3. Methodology

3.1. Data collection

This empirical study gathers data from a sample of hotels in a region of Spain. The study focuses on Aragón, which is an autonomous Spanish community composed of three provinces and approximately 1.4 million citizens. Aragón has been characterized by an increase in tourism in recent years, which has heavily influenced the hotel industry. According to the latest report published by the Aragonese Institute of Statistics (IAEST, 2013), both the number of tourists and the number of overnight stays increased in June 2013. The total number of overnight stays in the first six

months of 2013 increased by 12%, compared to the 2.4% growth in the rest of Spain. In addition, the environmental concern exhibited by this Spanish region, especially in the hotel industry, makes it of great interest for our research. In the hotel industry, an action plan entitled EAREA (Aragonese Strategy for Environmental Education) (DGTUR, 2013) was recently implemented to increase environmental awareness among hotel employees and customers. Thus, hotels in this region are committed to designing and implementing environmental management systems in accordance with ISO 14001.

The target population covered 356 establishments with a minimum rating of two stars. These hotels were included in an official guide published by the Ministry of Tourism. This specific population was selected due to the greater environmental awareness of larger hotels, given their high consumption of natural resources, and high levels of waste generation (Céspedes-Lorente, de Burgos-Jimenez, & Álvarez-Gil, 2003). Conversely, budget and one-star hotels are less likely to implement eco-friendly practices (Mensah, 2006). Data collection was carried out through a telephone questionnaire aimed at the hotels' environmental manager or hotel director. If these persons were not available to respond to the interview, the hotel's owner was chosen as the respondent. In this situation, in order to obtain reliable information, the owner had to be directly in charge of managing the hotel business. Thus, the procedure used a non-random sampling approach in which the organizations surveyed expressed their availability to participate in this project. Finally, excluding those hotels that decided not to cooperate with the study, and after discarding incomplete questionnaires, 232 valid questionnaires were obtained. This represents 65.1% coverage of the target population. In order to increase the response rate, the confidentiality and anonymity of the respondents were assured. Table 1 presents information regarding the characteristics of the establishments that participated in the study.

3.2. Measurement of variables

To measure the different variables included in the study, 11-point multi-item Likert scales (0 = strong disagreement; 10 = strong agreement) were adapted from previous research. This scale was used as the questionnaire was conducted by telephone and the respondents had no face-to-face contact with the interviewer, nor a visual reference of the scale; it was thought that a simple scale from 0 to 10 would allow the respondents to easily categorize their perceptions (0 = minimum, 5 = median, 10 = maximum). In addition, the 0–10 scale is traditionally used in

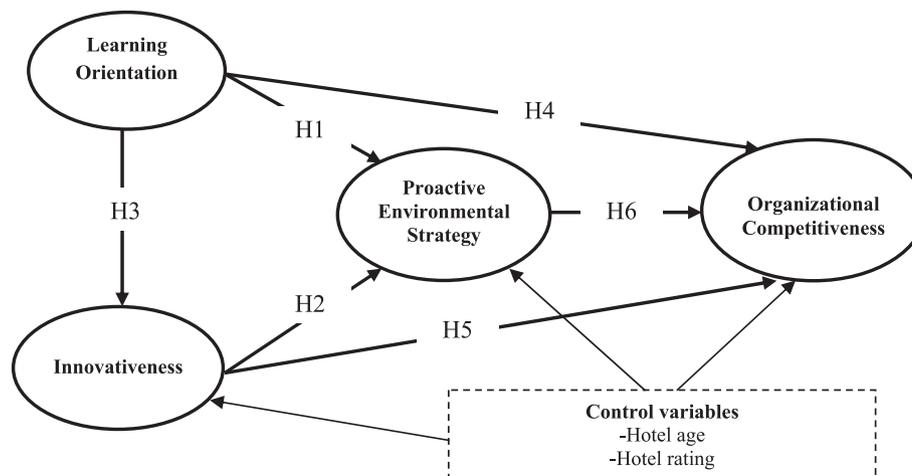


Fig. 1. Theoretical model.

Table 1
Respondent characteristics.

Hotel rating		Position of the person surveyed	
2 stars	39.2%	Hotel director/deputy	49.2%
3 stars	35.2%	Environmental manager	28.4%
4 or more stars	25.6%	Owner	22.4%
Province		Hotel age	
Province 1 (Zaragoza)	40%	>25 years	30.4%
Province 2 (Huesca)	34%	10–25 years	35.6%
Province 3 (Teruel)	26%	<10 years	34%

countries like Spain. While five- or seven-point Likert scales are frequently accepted by researchers, previous studies show that 11-point scales, although less preferred by respondents given their length, provide similar reliability values (Preston & Colman, 2000). Before the survey was conducted, the questionnaire was reviewed by eight environmental managers of different hotels, and three researchers with experience in this field. This allowed us to remove, modify or add items, and guaranteed the suitability of the indicators for the hotel context. Appendix A presents the indicators used in this study.

Learning orientation was measured through the different dimensions proposed by Calantone et al. (2002) (adapted from Hult and Ferrell (1997) and Sinkula et al. (1997)): commitment to learning, intra-organizational knowledge sharing, shared vision, and open-mindedness. One example of the items included in the commitment to learning dimension was: “Managers basically agree that our organization’s ability to learn is the key to our competitive advantage”; or, for the shared-vision capability: “Employees view themselves as partners in charting the direction of this organization”. Similarly, innovativeness was measured through a four-item scale adapted from Calantone et al. (2002). It reflected the extent to which organization was open to new ideas and willing to change. One item included in this scale was: “Our company seeks out new ways to do things”. To measure PES, a scale adapted from previous studies was employed (Álvarez et al., 2001; Sharma, 2009). This scale encompassed 16 indicators that capture a wide range of environmental activities in different areas, such as operations, purchasing policy, organizational design, implementation of environmental certification programs, environmental benchmarking, customer involvement in environmental activities, etc. Examples of items included in this scale were: “We have reduced purchases of products that can be harmful to the environment”, and “In our hotel, managers and employees are committed to improving environmental performance of the organization”.

Organizational competitiveness included five items. In this case, managers had to evaluate their hotel’s position in comparison with that of their main competitors in terms of current profitability, five-year profitability, gross profit, ability to attain corporate objectives, etc. These indicators were selected following previous studies (González-Benito & González-Benito, 2005; Sharma & Vredenburg, 1998; etc.). We considered this subjective approach to be suitable since executives are usually less reluctant to provide subjective information than objective data. In addition, some authors point out that obtaining information on business performance according to subjective methods is consistent with objective measures (Smith, Guthrie, & Chen, 1989; Venkatraman & Ramanujan, 1986).

As control variables, this study includes the hotels’ rating and age. The hotel rating was measured by the number of stars. The age of the establishment was calculated as the difference between the year in which the information was collected and the year the hotel was founded. Previous research suggests that these variables may affect organizational environmental behavior, innovativeness and

performance (Álvarez et al., 2001; Calantone et al., 2002). For example, larger and higher-rated hotels have more resources that are likely to facilitate organizational-capabilities deployment. They also use more formal approaches to managing environmental issues, and are more visible to society in relation to their social and environmental behavior (Bowen, 2000; Céspedes-Lorente et al., 2003). Age can also affect organizational capabilities and competitive advantages. Older hotels are more experienced in selecting and targeting market and environmental information. They also control more sources of intelligence derived from lasting relationships with customers, suppliers or other companies (Calantone et al., 2002). Following previous research and the scope of this study, these control variables were included as direct antecedents of the three endogenous constructs examined in the model.

3.3. Common method bias assessment

Using only one respondent from each hotel may cause problems related to common method bias. This potential problem was controlled through procedural and statistical methods (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). Ensuring confidentiality and anonymity, and the fact that the respondents were employees with maximum responsibility, reduced the possibility that these individuals responded in a dishonest manner (Podsakoff et al., 2003). In addition, the design of the questionnaire introduced pauses between the different dependent and independent variables in such a way that the respondents could not establish cause–effect links between them. With regards to the statistical procedures, all of the constructs originally included in the questionnaire were subjected to exploratory factor analysis with SPSS 18.0. This revealed eight distinct factors, and that the highest portion of variance explained by one single factor was 21%. This suggests that one general factor did not accumulate the majority of the variance. We also performed the Harman test by means of confirmatory-factor analysis with EQS 6.1. This test showed that the goodness of fit for a measurement model in which all of the variables loaded on a single factor was substantially lower than the fit for a model wherein every item loaded on its corresponding latent variable. In addition, the analysis of the correlations matrix did not reveal abnormal values exceeding the critical thresholds (Pavlou, Liang, & Xue, 2007). Therefore, common method bias does not seem to be a problem in this research.

4. Results analysis

In order to test the model, we employed structural equation modeling (SEM) using partial least squares (PLS) with SMARTPLS software. PLS is particularly interesting in this study for various reasons. Following Ringle, Wende, and Will (2005) and Gefen, Rigdon, and Straub (2011), the choice of PLS vs. covariance-based methods (CBM) should depend on the objectives and assumptions of the SEM tool. In any case, this choice should be conveniently explained to the reader. First, while CBM is theory-oriented and focuses on confirmatory analysis, PLS is considered more appropriate in early stages of theory development. This means that PLS is convenient in situations where the interest of the research focuses on predicting one or more dependent variables, and not in confirming a previously theoretically accepted model. Rather than further testing a well-developed theory, this study aims to apply the dynamic capabilities view of the firm to the deployment of PES. It explores how different organizational capabilities are interconnected and affect organizational competitiveness. Since the study of PES is relatively new and the theoretical models are not well formed, we consider the PLS approach to be more suitable in this study. Second, this method is particularly useful when

researchers include scales that have been tested and validated in previous works (in this study, learning orientation dimensions and innovativeness have been tested in numerous empirical studies) with new scales that have not received enough empirical attention (such as the PES scale, which is an adaptation from previous studies). According to [Chin and Newsted \(1999\)](#), when the measurement instruments are not yet well formed, PLS is a more appropriate method, compared to CBM. Third, PLS is preferable when the model includes large numbers of indicators ([Chin, 2010](#)). In CBM, complex models including many indicators can be problematic relative to fit indices ([Chin & Newsted, 1999](#)). Since our model initially includes 40 indicators, and the dimensionality of the PES construct is still not clear, it seems sensible to choose PLS. Finally, the relatively small size of our sample makes PLS suitable. While CBM establishes strong sample-size requirements, PLS restrictions are generally much less significant. Following [Reinartz, Haenlein, and Henseler \(2009, p. 334\)](#), “*PLS should be the method of choice for all situations in which the number of observations is lower than 250*”. Consequently, for this specific study, we believe that the advantages of PLS surpass the CBM method.

Although PLS simultaneously estimates the parameters of the measurement and of the structural model, the related analyses must be carried out in two stages: the measurement model analysis and the structural model analysis. On the one hand, the measurement model assessment involves an examination of the adequacy of the scales by analyzing the relationships between each construct and its indicators. On the other hand, the examination of the structural model focuses on testing the causal paths between the constructs that compose the theoretical model.

4.1. Analysis of the measurement model

Prior to implementing the PLS technique, an analysis of the factor structure of the data was performed through principal component analysis and varimax rotation. This initial step allowed us to discard indicators that simultaneously presented high loadings in multiple factors. This exploratory analysis revealed the unidimensionality of the learning orientation dimensions, and of the innovativeness and organizational competitiveness scales. A four-factor solution emerged for the PES scale; this is a similar result to those obtained in previous studies that confirm the multidimensionality of the construct ([González-Benito & González-Benito, 2005](#); [Sharma et al., 2007](#)). In this sense, these factors were described according to the nature of the items that formed each dimension. These were labeled as “PES organizational dimension” (OR-PES) (items 1, 2, 3 and 11), “PES operational dimension” (OP-PES) (items 6, 7 and 8), “PES information-management dimension” (IN-PES) (items 4 and 5) and “PES customer involvement dimension” (CI-PES) (items 14 and 15). Items 9, 10, 12, 13 and 16 were removed because they presented high loadings across factors. The Cronbach's alpha values for these factors were all above 0.7.

After exploring the scales' factor structure, we estimated the measurement model using PLS. Following previous approaches ([Calantone et al., 2002](#); [Sharma et al., 2007](#)), PES and learning orientation were both conceived as second-order constructs composed of the dimensions obtained in the exploratory factor analysis. Since PLS does not permit direct inclusion of second-order constructs, we proceeded to create such constructs through a two-step approximation method ([Wetzels, Odekerken-Schroder, & Van Oppen, 2009](#)). This procedure implies that, as a first stage, the factors constituting the PES and learning orientation constructs are included in the model as first-order constructs. The estimation of this initial model allowed us to obtain the latent variable scores. It should be noted that in this initial estimation, all the items' loadings

for their respective variables were above the critical value of 0.7. Besides, they were found to be statistically significant after performing a bootstrap analysis with 500 subsamples. In a second step, the second-order model was estimated. This estimation employed as input variables the latent variable scores of the first-order factors in their respective second-order constructs that were obtained in the first step.

Once the second-order model was constructed, we proceeded to assess the measurement model. This process essentially involved three stages ([Roldán & Sánchez-Franco, 2012](#)). First, the reliability of the individual indicators was examined through their factor loadings (λ). This evaluated whether every indicator that forms the construct was highly correlated with its respective latent variable. In this sense, all the factor loadings exceeded the threshold of 0.7 recommended in the literature ([Table 2](#)). For PES, which was conceptualized as a second-order reflective construct, these values were slightly below 0.7 in two dimensions. However, some authors argue that the 0.7 threshold should not be so rigid in the initial stages of scales development, or in second-order variables ([Barclay, Higgins, & Thompson, 1995](#); [Chin, 1998](#)). In addition, this construct presented adequate average variance extracted (AVE) and composite reliability (CR) values. These results support the idea that the dimensions are collectively reflective of the overall construct. Second, composite reliability was explored by analyzing Cronbach's alpha and CR, and convergent validity through AVE values. CR indicates whether the set of variables is consistent with what it intends to measure. As shown in [Table 2](#), both the alpha and the CR values exceeded the critical threshold of 0.7 for all variables. Only the alpha for the PES scale was slightly below 0.7. Convergent validity evaluates whether or not the items represent one and the same underlying construct. In this case, the AVE values were above 0.5 for all of the scales ([Fornell & Larcker, 1981](#)), which demonstrates convergent validity. Third, the existence of discriminant validity was verified. Discriminant validity indicates the extent to which a construct differs from other constructs within the model. In this sense, the most accepted method for PLS is a comparison between the AVE values with the squared correlations between variables ([Barclay et al., 1995](#)). [Table 3](#) presents every construct's AVE values, and the square of the estimated correlations for each pair of constructs. This information confirms the existence of discriminant validity between the constructs, since the AVE values are higher than the squared estimated correlations.

Table 2
Measurement model.

Factor	Indicator	Standardized loading	Alpha	CR	AVE
Learning orientation (LO)	CL	0.728	0.739	0.834	0.558
	IOKS	0.781			
	SV	0.723			
	OM	0.755			
Innovativeness (INN)	INN1	0.827	0.835	0.889	0.669
	INN2	0.827			
	INN3	0.806			
	INN4	0.812			
Proactive environmental strategy (PES)	OR-PES	0.762	0.670	0.802	0.504
	OP-PES	0.751			
	IN-PES	0.682			
	CI-PES	0.638			
Organizational competitiveness (OC)	OC1	0.860	0.888	0.918	0.692
	OC2	0.790			
	OC3	0.885			
	OC4	0.832			
	OC5	0.789			

Note: See [Appendix A](#) for a description of the indicators.

Table 3
Discriminant validity.

Construct	LO	INN	PES	OC
LO	0.558			
INN	0.278	0.669		
PES	0.297	0.323	0.504	
OC	0.164	0.254	0.227	0.692

Note 1: Diagonal figures present the AVE values. Off-diagonal figures represent the constructs' squared correlations.

Note 2: See Table 2.

4.2. Analysis of the structural model

In order to assess the significance of the path coefficients, we used a bootstrap procedure with 5000 subsamples. This structural model was examined through the significance of the λ coefficients and by observing the R^2 values of the dependent variables. In this sense, all the λ coefficients were significant at 1% (Appendix A). In addition, the model explains the 35.6% organizational competitiveness variance, the 41.2% variance for the PES construct, and the 34.5% variance for innovativeness. In order to evaluate the predictive relevance of the model, we used the Stone–Geisser test. In this sense, the Q^2 value of this test for the three dependent variables was positive (Q^2 -OC = 0.24; Q^2 -PES = 0.20; Q^2 -INN = 0.21). Thus, it can be assumed that the dependent variables can be predicted by the independent variables. We also evaluated whether the influence of every antecedent variable on a dependent construct had a substantive impact, by following Cohen's f^2 procedure (Cohen, 1988). The results suggest that whereas learning orientation had a small effect on competitiveness, most of the antecedent variables had a substantive influence on the dependent constructs. Finally, we calculated the goodness of fit proposed by Tenenhaus, Vinzi, Chatelin, and Lauro (2005), which showed a value of 0.474; this is considered high (Cohen, 1988). Table 4 provides information on the structural model.

The hypotheses can be confirmed through the interpretation of the structural path coefficients (Table 4). Learning orientation exerts a significant effect on PES ($\beta = 0.346$; $t = 5.307$), thus supporting Hypothesis 1. Organizations that present higher levels of learning orientation are more likely to develop proactive environmental practices. In accordance with Hypothesis 2, innovativeness positively influences PES ($\beta = 0.366$; $t = 5.210$). As expected, organizations whose culture is oriented toward accepting new ideas, and that are open to innovating, will also be more proactive in their environmental strategies. Furthermore, and consistently with previous research (Calantone et al., 2002; Jiménez-Jiménez & Sanz-

Table 4
Results of the structural model.

Hypothesis	β	t -value	R^2	Q^2
H1: LO \rightarrow PES	0.346	5.307*	$R^2(\text{OC}) = 0.36$	$Q^2(\text{OC}) = 0.24$
H2: INN \rightarrow PES	0.366	5.210*		
H3: LO \rightarrow INN	0.489	8.934*	$R^2(\text{PES}) = 0.41$	$Q^2(\text{PES}) = 0.20$
H4: LO \rightarrow OC	0.120	1.689		
H5: INN \rightarrow OC	0.242	3.296*	$R^2(\text{INN}) = 0.34$	$Q^2(\text{INN}) = 0.21$
H6: PES \rightarrow OC	0.220	3.229*		
Control variables	f^2			
Age \rightarrow INN	0.039	1.010	$f^2(\text{LO} \rightarrow \text{INN}) = 0.34$	
Rating \rightarrow INN	0.262	4.381*	$f^2(\text{LO} \rightarrow \text{PES}) = 0.15$	
Age \rightarrow PES	0.051	1.115	$f^2(\text{INN} \rightarrow \text{PES}) = 0.14$	
Rating \rightarrow PES	0.061	1.061	$f^2(\text{LO} \rightarrow \text{OC}) = 0.02$	
Age \rightarrow OC	0.012	0.265	$f^2(\text{INN} \rightarrow \text{OC}) = 0.06$	
Rating \rightarrow OC	0.214	3.514*	$f^2(\text{PES} \rightarrow \text{OC}) = 0.05$	

Note 1: * $p < 0.01$.

Note 2: See Table 2.

Valle, 2011), learning orientation favors innovativeness; thus, Hypothesis 3 can be accepted ($\beta = 0.489$; $t = 8.934$). In general terms, these results indicate that both learning orientation and innovativeness are relevant capabilities that explain PES development. The more an organization invests in capabilities related to learning and innovation, the more prepared it will be to adopt a proactive behavior toward the natural environment.

With regards to the competitive consequences of organizational capabilities, the findings show that learning orientation is not significantly related to organizational performance ($\beta = 0.117$; $t = 1.689$); thus, Hypothesis 4 is rejected. This result suggests that learning orientation does not directly affect performance. However, it could have an indirect positive impact on such a variable if learning modifies organizational behaviors (i.e. through innovation capability or PES). As expected, Hypothesis 5 is accepted ($\beta = 0.242$; $t = 3.296$). This finding suggests that more innovative hotels also have higher performance. Hypothesis 6 is also confirmed: environmentally proactive hotels also obtain higher performance levels ($\beta = 0.220$; $t = 3.229$), which indicates that being green pays in the hotel industry.

Concerning the control variables, hotel rating affects innovativeness ($\beta = 0.262$; $t = 4.381$) and organizational competitiveness ($\beta = 0.214$; $t = 3.514$). Higher-rated hotels normally account for larger tangible and intangible resources that provide opportunities to innovate and to obtain superior performance. In order to further examine these findings, we estimated an alternative model that considers the control variables as moderating variables of the examined causal paths. To do so, we employed the “Product Terms” procedure (Henseler & Fassott, 2010). This procedure involves the creation of new interaction terms within the model, which are derived by multiplying the dependent and the moderator variables. This estimation indicated that rating positively moderated the relationship between learning orientation and innovativeness ($\beta = 0.168$; $t = 2.356$). Thus, higher-rated hotels are not only more innovative, but also find more opportunities to apply knowledge from learning to the innovation process. The rest of the moderator paths were not significant.

4.3. Post hoc analysis of the indirect effects

The results of the structural model suggest the possible existence of mediating relationships between several specific variables. For example, the influence of learning orientation on organizational competitiveness is not direct, but could be indirect through innovativeness or PES. This section conducts systematic analyses on these mediating effects. Specifically, we employed the method of confidence intervals suggested by Chin (2010) and Williams and MacKinnon (2008). Through a bootstrap analysis, this method examines the indirect effect of an independent variable (IV) on a dependent variable (DV) through a mediating variable (MV), by calculating a confidence interval. This interval is calculated by multiplying the path coefficients included in the mediating relationship (IV \rightarrow MV \times MV \rightarrow DV), obtained from a bootstrap estimation with a large number of subsamples. Subsequently, the confidence interval is calculated by eliminating extreme cases through the percentile formula. If the confidence interval (CI) for a mediating variable does not include the value zero, this means that the indirect effect is significantly different from zero. The results of this estimation are shown in Table 5.

According to this estimation, learning orientation indirectly influences organizational competitiveness through innovativeness (IC: 0.075–0.240) and PES (IC: 0.024–0.143). Since the direct effect was not significant, the findings reveal that innovativeness and PES totally mediate the influence of learning orientation on performance. Thus, a learning-oriented culture does not influence

Table 5
Results of the indirect effects estimation.

Relationship	Total effect β (t-value)	Direct effect β (t-value)	Indirect effect path	Indirect effect confidence interval
LO → OC	0.359* (6.046)	0.120 (1.689)	LO → INN → OC	(0.075; 0.240)
			LO → PES → OC	(0.024; 0.143)
LO → PES	0.524* (9.178)	0.346* (5.307)	LO → INN → PES	(0.122; 0.269)
INN → OC	0.323* (4.279)	0.242* (3.296)	INN → PES → OC	(0.027; 0.144)

Note: * $p < 0.01$.

organizational competitiveness directly, but does so indirectly via the development of innovations or the deployment of PES. Similarly, learning orientation indirectly influences PES (IC: 0.122–0.269). However, in this case, when incorporating the mediating variable, the direct effect remains positive and significant, suggesting the existence of partial mediation. With regards to the influence of innovativeness on organizational competitiveness, the findings suggest that there is an indirect effect through PES (IC: 0.027–0.144). The direct path in this relationship was found to be significant, thus suggesting partial mediation. Fig. 2 shows the structural paths between the variables.

5. Conclusions, limitations and further research

This paper examines the links between proactive environmental strategies, organizational capabilities and competitiveness. A model is proposed and tested on a sample of 232 hotels operating in Aragón, a regional community in Spain. The findings provide relevant implications to both scholars and practitioners related to the hospitality industry for the development of successful hotel operations and management.

The findings confirm that proactive environmental strategies in the hotel industry depend on complementary organizational capabilities related to learning and innovation. These complementary abilities are interrelated, and may interact for the successful implementation of advanced environmental practices. This is consistent with previous research that has identified PES as a dynamic capability that is dependent on specific complementary capabilities (Aragón-Correa & Sharma, 2003). These approaches

suggest that organizational capabilities themselves do not necessarily create competitive advantages. It is the organization's ability to make effective use of these capabilities that actually contributes to sustaining competitive advantage (Torugsa, O'Donohue, & Hecker, 2012). Indeed, this study reveals that certain capabilities, such as learning orientation, impact organizational competitiveness only indirectly. Updated advanced knowledge from learning processes may be applied to the development of innovations and environmental strategies, thus creating the conditions for obtaining competitive advantages.

According to the study's findings, in the hospitality industry, the implementation of proactive environmental strategies should be endorsed by mechanisms that are capable of creating an effective intelligence that facilitates decision-making in turbulent markets. Thus, hotels must invest in learning capabilities prior to the development of innovative environmental strategies. Undoubtedly, being proactive in this sector involves the implementation of complex modifications in several areas such as operational practices, organizational design or employee and client education (Sharma, 2009). This complexity requires hotels to favor organizational cultures that are oriented toward learning. Such an orientation stimulates organizational ability to sense, shape and respond to internal and external environmental threats and opportunities. Consequently, the development of structures that enable organizational members to access relevant information, critically consider their past decisions, leverage a sense of commonality, or accept new ideas will facilitate the development of proactive ecological activities. Cultural traits related to innovation also favor the deployment of environmental competencies. The results show that more innovative hotels are also more proactive in their environmental management. Advanced environmental practices require firms to try new ways of doing things, to assume risks, and to internalize new approaches toward solving environmental inefficiencies. This can entail anything from employing incremental improvements in service or product design (e.g. changing lighting systems in order to improve energy consumption), to disruptive modifications in the business model (e.g. the NH Green Hotel Project, which consisted of adapting the guests' key cards in order to save energy and to provide clients with a customized service) (Carrillo-Hermosilla, del Río, & Könnölä, 2010; Sharma et al., 2007). Innovativeness implies a higher ability to respond to

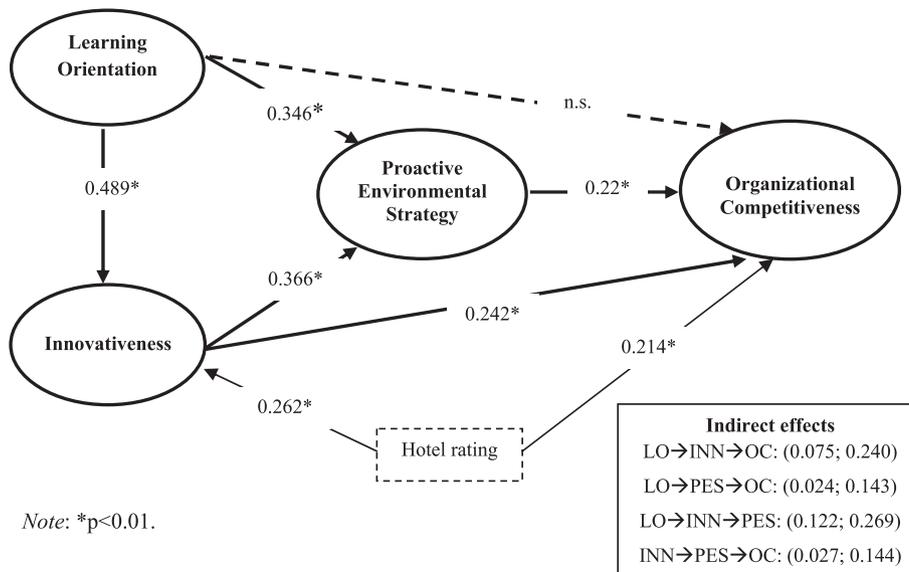


Fig. 2. Results of the structural model.

environmental changes in a speedy and flexible manner. Thus, hotels that are more open to innovating will probably be more prepared and successful in relation to implementing changes in different areas that aim to reduce environmental inefficiencies. As other companies may easily imitate pioneering successful innovations in the hospitality sector, it is the ability to continuously generate such innovations that explains environmental success (Li & Atuahene-Gima, 2001; Sharma et al., 2007).

The results also suggest that learning orientation positively affects innovativeness in the hospitality sector. The innovation process requires hotels to intensively interpret new and existing information in order to react to environmental changes. Given the proximity and visibility of these company's services, it is essential for hotels to continuously innovate by exploring new combinations of resources. In order to achieve such a state of continuous adaptation, hospitality organizations need to attain an advanced understanding about environmental changes related to customers' needs, competitors' movements, development of new technologies, etc. Managers of these organizations should therefore foster this climate by encouraging employees to expand their knowledge and learning abilities, and by recognizing and rewarding their contributions toward solving environmental and innovation issues. For example, "hospitality teams" have been proven to act as an excellent pool of knowledge that leverages service-innovation performance (Monica Hu, Horng, & Sun, 2009).

With regards to the influence of organizational capabilities on competitive advantages, the findings reveal that innovativeness and PES directly influence organizational competitiveness. Hotels without cultural innovation traits will be less likely to succeed in the development of new products and services, in the acceptance of administrative innovations, or in the implementation of new technologies and processes. Thus, a proactive attitude toward innovation will allow organizations to more rapidly adapt to environmental changes. Consequently, they will be able to create market value and maintain a leadership position in the sector. The results also indicate that environmental strategies positively influence competitiveness. The study supports the notion that engagement in PES can be an appropriate business model for hospitality firms. Certainly, managers in the hospitality sector should be aware that benefits from proactive environmental management may appear in the long term (Aragón-Correa & Rubio, 2007). In any case, the results of this study suggest that there are indeed opportunities related to proactive environmental management. On the one hand, this can be explained by the fact that proactive postures allow hotels to be more efficient in the identification and elimination of environmental inefficiencies, which will result in process-cost reductions (e.g. investments in alternative energy equipment, or the incorporation of environmental criteria in purchasing). On the other hand, being sustainable can also contribute to providing differentiation advantages via enhanced corporate reputation among various audiences. For example, a green image can affect consumers' behavioral intentions, such as intention to revisit, positive word of mouth, or willingness to pay a premium (Blanco, Rey-Maqueira, & Lozano, 2009; Lee, Hsu, Han, & Kim, 2010).

Contrary to our expectations, the existence of an internal culture oriented toward learning does not directly influence organizational competitiveness. However, mediation analyses revealed that this influence is indirect, via innovativeness and PES. This suggests that while learning orientation is a critical skill for hotels to be competitive (Baker & Sinkula, 1999; Calantone et al., 2002), knowledge should be applied to concrete innovative and environmentally friendly actions in order to attain competitive advantages. This implies that while innovativeness and PES are direct predictors of organizational competitiveness, they also appear to be necessary mediators between learning and performance (Delmas et al., 2011;

Hurley, Hult, & Knight, 2004). Without strong innovative and PES capabilities, knowledge creation abilities may provide no value when it comes to achieving the performance objectives of a services organization. While learning is central for innovation and PES to emerge, its advantages in terms of competitors, products or market knowledge will be ineffective if hotels are not prepared to apply such intelligence to innovate, or to adopt a more proactive behavior toward environmental protection.

With regards to the control variables, on the one hand, age did not influence any of the constructs included in the model. This suggests that there are no differences between old and young hotels in terms of innovativeness, environmental proactivity or organizational competitiveness. A possible explanation for this is that while older hotels are more experienced organizations that possess greater market intelligence, they also entail more rigid structures and long-established routines, compared to younger hotels. These rigidities may hinder learning and innovation, and explain why older hotels do not outperform young establishments (Hurley & Hult, 1998). Young organizations, which are not so experienced, can efficiently learn, innovate and develop environmental actions, since they are not subject to such rigidities. On the other hand, the findings suggest that hotel rating affected organizational innovativeness and performance. As mentioned above, higher-rated hotels probably own large amounts of resources that act as facilitators of innovation, and stimulate competitive advantage. Indeed, the moderating influence of rating on the learning–orientation–innovativeness path suggests that resources allow hotels to more efficiently use intelligence in the innovation process.

This paper is not free of limitations. First, the study is constrained to analyzing learning and innovation as cultural orientations. As suggested by other authors (Jiménez-Jiménez & Sanz-Valle, 2011), future research should employ more objective measures of innovation and learning. These should include the number of successful administrative, process and service innovations, and the quantity of learning resources dedicated to organizational innovation. Similarly, objective measures of organizational performance would allow researchers to obtain a more comprehensive picture of the dynamic consequences of organizational capabilities. Second, the study is cross-sectional. Longitudinal research is required in order to assess the direction of the causality of the studied paths. This would allow researchers to further assess the potential existence of reciprocal relationships between capabilities. Third, following the contingent-resource-based view of the firm, external variables such as uncertainty, munificence and complexity should be included in future research (Aragón-Correa & Sharma, 2003). According to this view, external variables moderate the relationship between organizational capabilities related to PES, and competitive advantages. Fourth, organizational conditions, such as affiliation to a hotel chain, could also be considered in order to further explore the possible heterogeneity of the study's causal paths (Céspedes-Lorente et al., 2003). According to Ingram and Baum (1997), affiliated hotels hold more knowledge and innovation resources, as well as better reputations and more market power. Consequently, chain hotels could be more prone to applying knowledge to organizational innovations, because learning can occur at both the hotel and at the corporate (chain) level. In addition, membership of a chain may influence the environmental behavior of the hotel by imposing common and minimum norms for environmental protection, or by facilitating the formation and diffusion of environmental-protection initiatives (Céspedes-Lorente et al., 2003). Fifth, from a methodological standpoint, it would be desirable to complement quantitative studies with qualitative approaches and case studies. This would permit researchers to identify alternate resources and capabilities that stimulate best environmental practices in the hospitality industry.

Additionally, it would be particularly interesting to obtain information from various informants within the same organization (Podsakoff et al., 2003). Generally, more empirical papers in different geographical contexts would be welcomed, especially longitudinal studies.

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Appendix A. Supplementary material

Supplementary material related to this article can be found online at <http://dx.doi.org/10.1016/j.tourman.2014.05.009>.

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