

**A FRESH APPROACH TO ENVIROMENTAL MANAGEMENT: DO
ALL COMPANIES HAVE THE SAME CONTEXT INFLUENCE,
DEVELOPMENT AND PERFORMANCE?**

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A FRESH APPROACH TO ENVIRONMENTAL MANAGEMENT: DO ALL COMPANIES HAVE THE SAME CONTEXT INFLUENCE, DEVELOPMENT AND PERFORMANCE?

Abstract: Respect for the environment has rapidly gained importance in the context of firms, regardless their level of pollution. Most of the research has been related to the most polluting sectors and is limited to the effect on performance of the adoption of cleaner practices primarily in terms of operations, financial performance and competitiveness. This paper expands the research towards a more complete picture of environmental management by examining context, development and performance to understand how other factors can influence the development of cleaner practices. In addition, we focus our research on a service sector. In our analysis, we differentiated between the affiliation and size of the companies to better understand their specificities. Based on a sample of 374 restaurants, the results show the importance of the influence of institutions and the limited influence of competitors in encouraging firms to adopt new management practices, especially for smaller firms.

Keywords: environmental approach, institutional support, environmental performance, environmental context, affiliation, environmental standard.

INTRODUCTION

Adoption of environmental practices is a key strategy for companies regardless of whether they have been high level polluters (Bernardini, 2008). The major reason, beyond the macro-economic aspects of global climate change, is that cleaner practices allow consumption savings, improved operations and increased competitiveness (Robinot and Giannelloni, 2010; Jani and Han, 2011). In the other new societal expectations of green-based sustainability, firms face pressure from governments and competitors (Ambec and Lanoie, 2008). A number of authors suggested that companies that are not involved in environmentally sound practices are losing economic competitiveness (Fernandez-Viñe et al., 2013).

There still remain gaps in this issue. Whereas the direct effects of cleaner practices on operations, financial performance and competitiveness have been widely studied, other factors, such as the institutional role, competitive pressure and the adoption of

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3 standardised environmental management systems, have been poorly tested. Cleaner
4 practices have been studied from a partial viewpoint, predominantly that of adoption
5 and performance, but there is little research about the role that other factors have in the
6 development of cleaner practices. Differences in adopting environmental practices and
7 their effects on large and small companies are unclear. The major reason is that in
8 previous research, environmental development and performance have been analysed in
9 large and small companies separately. The focus has been primary on larger companies
10 and/or on those that produced greater pollution, and thus the differences and similarities
11 of employing environmental management in a certain industry remain substantially
12 unexamined. It appears that there is room for improvement.

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14 This paper has three aims. Taking into account the complete picture of environmental
15 management, namely, context-development-performance, the first aim is to analyse the
16 role of environmental context in environmental development and performance. The
17 second aim is to conduct a structural equation multi-group analysis to compare the
18 differences in environmental management in identical industries distinguished by
19 affiliation. Affiliation is considered to be a suitable variable for size because it allows a
20 comparison of business units with a similar number of employees; in one class are
21 independent companies and in the other, all the business units having a headquarters
22 office that manages the strategy for and influences the behaviour of all the business
23 units. Finally, we aimed to study the influence of the adoption of a standardised
24 environmental management system on environmental development.

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26 This paper extends the previous research in a number of ways. First, it provides a
27 complete picture of the chain of environmental context-development-performance,
28 which reinforces insights previously identified and provides new ones that are critical
29 for managerial practice. Second, it reassesses the role of the environmental context and
30 gives new directions for analysis. Third, it provides a multi-group analysis and supplies
31 evidence regarding the influence of a contingency factor, affiliation, which has been
32 little studied to date. Finally, the role of a standardised management system on
33 environmental development sheds light on this open issue.

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35 Section two of this paper discusses the theoretical arguments concerning the model
36 proposed. Section three describes the empirical design of the study. Section four
37 presents a quantitative analysis, and section five presents the study findings. Section six
38 offers a number of conclusions drawn from the research on observed business practice.

LITERATURE REVIEW

Environmental Context

Environmental context explains the external factors that stimulate or inhibit the adoption of certain practices through which companies operate. External pressures necessitate internal changes in companies to respond to such pressures (Delmas and Toffel, 2004; Herremans et al., 2009). Previous research has stressed that in the case of environmental management, external pressure is the major promoter, and more specifically, hard regulation (Ruddell and Stevens, 1998; Chang and Wong, 2006; Martin and Rice, 2009). Hard regulation is mandatory for all companies, with few exceptions (highly regulated industries or very high polluters), whereas cleaner practices are based on soft regulation and recommendations. In this case institutional support could encourage or discourage this behaviour (Revell and Rutherford, 2003).

Malik and Kotabe (2009) defined institutional support as the extent to which government institutions facilitate the adoption of a business practice, innovation or technology under legal compliance, in this case, cleaner development. This paper accepts this definition of institutional support. Institutional support can encourage firms to adopt cleaner production in a number of ways including the following (see Malik and Kotabe, 2009; Fernandez-Viñe et al. 2013): 1) sharing information about appropriate environmental technologies for more effective use; 2) encouraging the creation of cleaner distribution chains to create new market segments; 3) providing incentives to promote cleaner practices; and 4) supporting companies by technical and trained staff.

Environmental context includes other companies that can be direct or indirect competitors and other companies operating in the field. These companies can influence themselves. Previous research suggested that mimetic behaviour is produced within the same industry or companies in the field to provide solutions to environmental challenges. Thus, management changes in the standards used by competitors encourage other companies to act similarly, although not all firms feel identical pressures or pressure from identical sources (Herremans et al., 2009). When institutional forces motivate the adoption of certain practices, companies act quickly to avoid penalties.

When competitors and other companies in the field encourage cleaner practices it generally takes other companies more time to adopt them. The major reason is that companies need time to observe the development of such practices in other organisations before being ready to adopt new practices. Cleaner practices may be

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3 adopted under indirect pressure from competitors to preserve a certain competitive
4 advantage and eliminate competitor differentiation (Revell and Rutherford, 2003;
5 Bernardini, 2008; Martin and Rice, 2010).

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8 Institutional support, competitors and companies in the field could influence the
9 environmental context of a company and decisions about environmental development.

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11 The leading hypotheses are as follows:

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13 H1. Competitors and other companies operating in the sector have a positive direct
14 influence on adoption of cleaner practices.

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16 H2. Institutional support has a positive influence on the adoption of cleaner practices.

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18 H3. The influence of competitors and institutional support on cleaner practices are
19 correlated.
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21 22 23 **Environmental Development**

24 Environmental development includes both a company's adoption of cleaner practices
25 and their direct effects.
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28 The adoption of cleaner practices is fundamental in all types of companies, although it
29 is more important for higher polluters or waste generators (Marimon et al., 2012).
30 Companies formerly adopted as a first step quick and simple practices, such as low
31 consumption lamps, water savers and recycling (Alonso-Almeida, 2012). These
32 practices constitute a basic hard foundation for implementing more advanced cleaner
33 practices. Fernandez-Viñe et al. (2013) found that SMEs believe that cleaner practices
34 are an extra cost because of the need to improve or change infrastructure and
35 technology. With these basic core practices, companies can achieve an effect on
36 operational performance (Trung and Kumar, 2005; Zeng et al., 2010; Ramanathan et al.,
37 2010; Hsieh, 2012; Bagur-Femenias et al., 2013) which is considered a direct effect of
38 cleaner practices and is termed environmental or cleaner performance (Aragon-Correa
39 et al., 2008).
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48 Cleaner performance involves a number of benefits including a reduction in the
49 consumption of energy and water and a reduction in the generation of waste
50 (Bernardini, 2008; Blanco et al., 2009; Alonso-Almeida, 2012; Hsieh, 2012). Through
51 the application of more efficient environmental methods, a reduction in the number of
52 invoices and, therefore, a reduction in total operational costs could be achieved
53 (Aragon-Correa et al., 2008; Zeng et al., 2010; Alonso-Almeida, 2012).
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3 A strategy based on environmental development could attract new customers, who
4 value the cleaner production and product concepts, and lead to a competitive advantage
5 over a company's competitors (Lopez-Gamero et al., 2009; Han et al., 2010; Jang et al.,
6 2011). The adoption of cleaner practices may increase the feeling of added value
7 provided by companies for customers. This strategy could be the optimum method of
8 maintaining market position and improving business, especially in times of crisis (Lee
9 et al., 2012).

10
11 Cleaner development could facilitate achieving higher standards in work conditions and
12 access to institutional support to accelerate cleaner production practices (Boyle, 1999;
13 Mohamed, 2001; Chan and Hawkins, 2010). The adoption of cleaner practices could be
14 part of a virtuous cycle of a company in its path to sustainability.

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16 On the basis of the previous evidence, the following hypothesis is proposed:

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18 H4. The adoption of cleaner practices has a direct positive effect on cleaner
19 performance.

20 21 22 23 24 25 26 27 28 **Environmental Performance**

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30 Environmental management encompasses the effects not directly produced by the
31 adoption of cleaner development on financial performance and market success factors.

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33 In addition to the reductions in daily operating costs, cleaner performance allows firms
34 to achieve higher standards and a possible differentiation from competitors by creating
35 value for customers (Lopez-Gamero et al., 2009; Robinot and Giannelloni, 2010; Jani
36 and Han, 2011). Pleasant illumination, a comfortable temperature or more natural
37 products could have a positive effect on a customer's intention to purchase and
38 repurchase as a repeat customer (Alonso-Almeida et al., 2012) and, consequently, on the
39 financial performance of a firm.

40
41 Molina-Azorin et al. (2009a), in a review of the literature on environmental
42 management and financial performance, found that studies finding a positive effect of
43 environmental concern on financial performance are predominant. The latest research
44 has shown a positive relationship among environmental management and financial
45 performance (e.g., Pereira-Moliner et al., 2012). The following hypothesis is proposed:

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47 H5. Cleaner performance has a positive direct effect on financial performance.

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49 Companies that have a good environmental reputation have a more valuable market
50 image (Jang et al. 2011). By having an explicitly green image or by being a silent

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3 adopter of environmental management, a company's customers can perceive added
4 value and experience customer satisfaction when they consume a product or service; the
5 image of the company is improved in the eyes of its customers and is more positive than
6 the company image of those firms not adopting environmental management or without a
7 positive environmental image (Longart, 2010; Hyun and Kim, 2011) (Kassinis and
8 Soteriou, 2003; Susskind et al., 2007; Susskind, 2010; Black, 2012; Bagur-Femenias et
9 al., 2013) The adoption of cleaner practices could create new skills and an easier work
10 load for employees (Kassinis and Soteriou, 2003; Lee, 2009), thereby improving worker
11 satisfaction (Bagur-Femenias et al., 2013). Based on the findings listed above, the
12 following hypothesis is proposed:
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19 H6. Cleaner performance has a positive direct effect on market success factors.

20 Cleaner performance can provide better performance by the company in two direct
21 ways: developing market success factors and improving financial performance. Cleaner
22 performance could have an indirect effect on financial performance through market
23 success factors.
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28 From an internal perspective, satisfied employees project more satisfaction with their
29 job and perform better work (Jang et al., 2011). Customers may receive a better buying
30 experience and gain increased satisfaction, which increases customer intentions to
31 purchase (Hu et al., 2010; Longart, 2010; Jani and Han, 2011). Good service can have a
32 positive effect on the company's financial performance by encouraging sales (Susskind
33 et al., 2007; Alonso-Almeida et al., 2012).
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38 From an external perspective, consumers usually have confidence in companies with a
39 strong market image, such as a strong brand, even when they have never had direct
40 contact with the company (Jang et al., 2011). Consumers are more willing to look for
41 and patronise a company with a strong market image (Hu et al., 2010; Bagur-Femenias
42 et al., 2013). Sales figures and other financial factors can improve when company
43 develops an environmental awareness that is recognised and valued by the market.
44 Hence, the following hypothesis is proposed:
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49 H7. Cleaner performance has an indirect impact on financial performance through
50 market success factors.
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Companies' affiliation and environmental management

Size is one of most relevant factors used to explain organisational behaviour. Large companies have more visibility and could feel more external pressures to answer to stakeholders' demands (Marimon et al., 2012). Large sized companies tend to be better positioned to adopt more advanced management practices because they have more economic and human resources to introduce them (Rao et al., 1999; Dissanayaka et al., 2001).

In the case of some industries, size can be measured not only according to traditional measures as number of employees, amount of activity and sales but also through affiliation. Affiliation is a key variable in the motivation, development and performance of a specific practice because it can influence the adoption of practices independently of the actual size of a dealer or business unit (Cordano et al., 2010; Oberhofer and Fürst, 2012), which typically tend to be small (Aragon-Correa et al., 2008).

Previous research suggested that despite the benefits to joining a company group (Ma et al., 2006), companies in a group do not always achieve better performance than independent companies (Kanna and Palepu, 2000). The major reason is associated with macroeconomic issues (Kanna and Rivkin, 2001) but they typically have been pioneers in the adoption of management practices (Alvarez-Gil et al., 2001; Molina-Azorin et al., 2009b).

An affiliation-based business group is defined by Kanna and Rivkin (2001) as a set of firms, legally either independent or dependent, which take coordinated actions and are bound by a constellation of formal and informal ties. These authors asserted that members share a brand, have a common management team to manage strategy and may exchange resources' internally. In a number of industries, chain affiliation is common form (e.g., in the tourism, retail, apparel, transportation, and industries).

Ingram and Baum (1997) defined chain affiliation as "collections of service organisations, doing substantially the same thing (often the only differentiation is in physical space), that are linked together into a larger organisation. The relationships between the components of a chain are horizontal, although typically there are centralised parts of the chain, such as a distribution facility, that have vertical relationships to the components". As these authors asserted, "a chain can affect the fate of its components by giving them resources, reputation, and market power. By altering

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3 the competitive strengths of their components, chains may also influence the
4 competitive dynamics of industries".

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6 Regarding environmental management, the limited research that takes into account
7 affiliation showed mixed results, although a positive relationship was predominant.
8 Chain affiliation appears to deepen environmental development (Alvarez-Gil et al.,
9 2001; Molina-Azorin et al., 2009b; Pereira-Moliner et al., 2012) and environmental
10 performance (Molina-Azorin et al., 2009b; Oberhofer and Fürst, 2012). Aragon-Correa
11 et al. (2009) found the influence of dealer affiliation was not significant in the
12 automotive repair sector. A study on the influence of affiliation on the environmental
13 context has not been conducted, and the following hypotheses are enunciated:
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18 H8a. Environment context applies different pressure depending on affiliation

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20 H8b. Environmental development is different depending on affiliation.

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22 H8c. Environmental performance is different depending on affiliation.
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26 **Environmental management system standard and environmental development**

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28 One aspect of business practice that has been analysed in recent years is the adoption of
29 standardised management systems (Guler et al., 2002; Castka and Balzarova, 2008).
30 The application of the well-known standardised environmental management system,
31 ISO 14001, has increased in all industries and countries (Marimon et al., 2011), and
32 other nationwide environmental management systems are also increasing in use
33 (Rodriguez-Anton et al., 2012). Previous research found that companies with a
34 standardised environmental management system develop a stronger environmental
35 compromise regarding cleaner practices and obtain a cleaner performance (Yin and
36 Schmeidler, 2008; Molina-Azorin et al., 2009a). The adoption of a standardised
37 environmental management system can foster environmental development in cleaner
38 practices and performance.
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42 In the aforementioned improvements regarding cleaner performance, the brand image
43 benefits from the introduction of an environmental management system because
44 companies tend to display their certificates and use them for advertising (Terlaak and
45 King, 2006). Rodriguez-Anton et al. (2012) found that hotel companies incorporating a
46 standardised environmental management system perceived that they improved the
47 public image of a hotel. These authors noted that these certificates could be used in
48 hotel advertising as an advertising point for consumers seeking a certain environmental
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3 image. Because the existing evidence shows that companies that adopt a environmental
4 management system could obtain higher environmental development, the hypothesis
5 proposed is:
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8 H9. Companies adopting a standardised environmental management system have higher
9 environmental development than other companies in terms of cleaner practices and
10 performance.
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13 Figure 1 summarises the proposed model.

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20 **RESEARCH METHODOLOGY AND DEVELOPMENT OF MEASURES**

21 The fieldwork was conducted during November and December 2010 by means of
22 personal surveys with the general manager of each firm. Ultimately, 374 valid responses
23 were included in the analysis. The questionnaire gathered data about the environmental
24 management and profile of the company. All the items were measured in a 7-point
25 Likert scale, where 1 represented completely disagree and 7 completely agree, except
26 for the financial performance items, for which we categorised the answers in five
27 intervals to collect richer data. To ensure the validity of the data, the interviewers were
28 trained by the research team regarding the objective of the analysis. During the
29 interviews, all the respondents were informed about the purpose of the research and the
30 confidentiality of the collected data.
31

32 The major reason to focus our research on the restaurant industry is two-fold. First,
33 Spain has the highest number of restaurants per capita in the EU. In 2001,, there was
34 one registered establishment per 169 habitants, giving a total of 279,443 restaurants,
35 which contributed to more than 7% of the national GDP (Fehr, 2012; la Caixa, 2013).
36 Second, the tourist industry is the greatest source of waste (Trung and Kumar, 2005).
37

38 The sample was composed of casual restaurants (52.94%) and restaurants (47.06%).
39 The average number of employees per firm for the entire sample was 8.26 (standard
40 deviation= 7.11). The restaurants tend to be larger (12 employees) than the casual
41 restaurant (6 employees) on average, but they are all small business units.
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43 A casual restaurant in Spain is a restaurant in which the quality of the food and the
44 prices tend to be higher than those of a conventional fast food restaurant but may be
45 lower than those of a restaurant that offers full table service. In the North American
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3 context, a casual restaurant is commonly referred to as a casual dining establishment,
4 whereas a restaurant may be referred to as a formal restaurant.

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6 Finally, by typology, most of the businesses were independent firms (70.92%), and the
7 rest belong to a chain. In the sample, 28.96% claim to have implemented one
8 environmental standard. With regards to the scale for all the dimensions, we considered
9 the variables used in several previous studies. We asked the interviewees not to value
10 their perceptions about what the firm should do, but rather what the firms actually do
11 with regards to the environment.
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17 18 **RESULTS**

19 **Validity and reliability of the instruments**

20 A principal components analysis with Varimax rotation was conducted for each
21 dimension. Each item loaded on one dimension. A minimal loading of 0.40 was used in
22 the interpretation of these factors. The EFA factor structure of the dimensions was
23 examined by a CFA. The maximum likelihood method of estimation was used, and it
24 indicated that each item loaded on the identical factor that emerged in the EFA. Table 1
25 presents the items, the values of the internal consistency and the reliability, and the
26 literature from the items were based on the resulting factors.
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39 Because all of the items had factor loadings greater than 0.40, they were summed to
40 form a measure. The internal consistency and reliability of the resulting factors were
41 assessed using Cronbach's alpha, the composite reliability (CR) and the average
42 variance extracted (AVE). In all the cases, the values exceeded the minimum internal
43 consistency criterion: >0.7 for Cronbach's alpha (Malhotra, 2004), 0.7 for the composite
44 reliability (Nunnally and Berstein, 1994) and 0.5 for the AVE (Barclay, Thompson, &
45 Higgins, 1995).
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51 To determine the relationships between the dimensions and the discriminant validity,
52 Table 2 presents the results of the correlation analysis, the mean values and the standard
53 deviation of the observed dimensions and the square root of AVE in the diagonal. The
54 results of the comparison confirmed that each construct was more closely related to its
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own dimensions than to the dimensions of the other constructs because, in all cases, the square root of each dimension's AVE was higher than the correlation between the dimensions.

Please insert Table 2 over here

Analysis of the causal model

The hypotheses were tested using EQS software (Bentler, 1995). In accordance with Table 3, an overall conclusion about the fit of the model can be obtained by considering these indices simultaneously, as recommended by Schermelleh-Engel et al. (2003), and by obtaining at least three fit statistics indicating an acceptable fit.

Please insert Table 3 over here

In the Chi-square test divided by degrees of freedom, the values are smaller than 3, as proposed by Carmines (1981). The root mean square error of approximation (RMSEA) has a value of .06 or less, which indicates a good fit model, as indicated by Hu and Bentler (1999). The comparative fit index (CFI) value is, in all cases, higher than 0.90, indicating a better model fit (Hu and Bentler, 1999). Because more than three statistics in the model have values that are greater than the recommended values, we can affirm that these measures of overall fitness reflect the explanatory power of the proposed model. The standardised solution of the causal model is presented in Figure 2.

Please insert Figure 2 over here

Once the model had been assessed and validated, the analysis was extended to examine the effect of (a) being an independent or belonging to a chain and (b) having implemented an environmental standard in the firm, because these two variables are important on the basis of the literature review.

Multi-group analysis: Differences in environmental management

To test whether differences between the chain and independent restaurants are statistically significant, we tested the existence of structural invariance. We compare the multiple-group model with a nested model in which the relationship between COMPETITORS and INSTITUTIONAL SUPPORT on CLEANER PRACTICES are constrained to be equal across groups. The chi-square difference tests for the multiple-group model show that the invariance test, based on a maximum likelihood test, is not statistically significant for the relationship between COMPETITORS and CLEANER PRACTICES ($\Delta\chi^2 = 2.436$; $\Delta d.f. = 1$; $p = 0.118$) but is statistically significant for the relationship between INSTITUTIONAL SUPPORT and CLEANER PRACTICES ($\Delta\chi^2 = 5.256$; $\Delta d.f. = 1$; $p = 0.021$).

These results indicate that there are no differences in the implementation of green practices because of COMPETITORS between the independent and chain restaurants, but there are differences because of the INSTITUTIONAL SUPPORT.

Analysing the differences in depth, we see that there is a significant effect in each subsample. In independent restaurants, the standardised value of the effect is 0.424 and it is 0.964 in chain restaurants. Table 4 presents the standardised values of the relationships by subsample.

Please insert Table 4 over here

The multiple-group analysis shows that identical results are obtained from separate samples and that mixing both types of firms in a single model does not confound the result. We detected differences of significance according to the subsample in the relationship between INSTITUTIONAL SUPPORT and CLEANER PRACTICES.

Analysis of the influence of a standardised environmental management system on environmental development

Following the previous analysis, we studied the possible differences in the environmental development of the firms that had implemented environmental standards. In this case, we compared the multiple-group model with a nested model in which the

relationship between CLEANER PRACTICES and CLEANER PERFORMANCE is constrained to be equal across the groups. The chi-square difference tests for the multi-group model show that the invariance test, based on a maximum likelihood test, is not statistically significant ($\Delta\chi^2 = 1.115$; $\Delta d.f. = 1$; $p = 0.290$).

To detect possible differences, not in the relationship, but in the use of green practices and operational performance, we launched a non-parametric analysis between the sub-samples for each item of CLEANER PRACTICES and for each item of CLEANER PERFORMANCE.

In the CLEANER PRACTICES dimension, no statistically significant differences were detected. Some differences were detected in the CLEANER PERFORMANCE dimension, specifically in the fourth and seventh items, which refer to external environmental image (see Table 5).

Please insert Table 5 over here

DISCUSSION OF RESULTS

Studies regarding environmental management have focused on the direct and indirect effects that cleaner practices have on a company regardless of both the context in which the company operates and differences between companies and have utilised multi-group analysis. This research responds to the unanswered question regarding the relationships within a certain industry.

Previous research has shown that external pressure is the major driver in adopting cleaner practices. Our findings differ partially from previous ones. Previous research found that competitors were a source of pressure to adopt cleaner practices, but they are not significant influences in this study. Whereas institutional support is key to widespread cleaner practices, competitors do not represent any relevant influence. Institutional support beyond pure regulation compliance can be a source of knowledge crucial in the adoption of new management practices (Bernardini, 2008). The possibility of counting on the latest information, resolving doubts, giving advice and helping to finance new technology represent a key to encouraging companies to become involved in the development of cleaner practices, and H1 is thus supported.

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3 Direct competitors and other companies in the industry or field do not have a direct
4 influence of the adoption of cleaner practices. Contrary to the institutional theory,
5 companies in the studied sector do not emulate the behaviour of other companies with
6 regard to environmental practises. This finding supports the notion that direct mimetic
7 behaviour is not always the selected strategy for companies (Herremans et al., 2009),
8 especially when there is strong institutional support, and H2 is thus rejected.

9
10 Institutional support and the behaviour of competitors are correlated, and the factors can
11 affect each other. In an indirect way, companies could be positively influenced in their
12 development of environmental practices by competitors or other companies operating in
13 the same context. Hence, H3 is supported.

14
15 Related to cleaner performance, adoption of cleaner practices has a positive direct effect
16 on cleaner performance. This finding is consistent with previous research (Enz and
17 Siguaw, 1999; Blanco et al., 2009; Chan and Hawkins, 2010; Bagur-Femenias et al.,
18 2013). The advancement in the adoption of cleaner practices could be a key driver to
19 improving internal operations in a number of areas, such as daily operating activities,
20 energy efficiency, health and safety improvements and the possibility of accessing new
21 sources of funding. Bagur-Femenias et al. (2013) suggested that companies that do not
22 take environmental issues seriously could miss an opportunity to achieve greater
23 efficiency and competitiveness. Thus, H4 is supported.

24
25 Although most previous research has suggested that the relationship between cleaner
26 performance and financial performance is direct and positively related, this research did
27 not find this relationship. A similar result was found by Pereira-Moliner et al. (2012) in
28 the hotel industry. A possible explanation could be the continuous increased invoiced
29 cost of energy and water. Despite the reduction in consumption, the cost of utilities is
30 not a factor controlled by a company, and increased rates could void any effect on
31 profits in accounting of financial performance. Cleaner practices require investment
32 expenditures that could annul the positive effect on financial performance. The main
33 direct effect of cleaner practices is internal, and other variables, such as sales or an
34 increase in customers, could not be affected directly when customers do not perceive or
35 value the changes. Therefore, H5 is rejected.

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37 Cleaner performance has a positive direct effect on market success factors in two main
38 ways. First, the safety, internal learning and satisfaction of the employees may be
39 improved. Second, customers could perceive an added value relative to competitors

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3 through some characteristic of the product or service. Both aspects are relevant to
4 building a better image of the company and, therefore, a sense of better position in front
5 of other competitors. Thus, this finding is consistent with previous research (see
6 Pereira-Moliner et al., 2012) and H6 is supported.
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9 Market success factors have a direct positive effect on financial performance because of
10 cleaner development and performance. Improvements in image and customer service by
11 employees can increase sales and repurchases (Bagur-Femenias et al. 2013). Therefore,
12 H7 is supported.
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15 Comparison among different affiliations in a same industry has been scarce. For that
16 reason, this research provides a fresh approach to studying environmental management.
17 Our findings have found a significant difference in the institutional support factor in the
18 environmental context dimension. In the other dimensions -environmental development
19 and performance- no significant differences were found. This research contradicts
20 previous research that reported that chain affiliation companies have more advanced
21 environmental development and performance (e.g., Molina-Azorin et al., 2009a;
22 Oberhofer and Fürst, 2012). Small independent companies can achieve better internal
23 efficiency and external competitiveness than companies affiliated with a chain. This
24 finding is especially important in the current financial crisis in which survival is a
25 primary company objective. Small independent companies should depend on
26 environmental management advances to improve competitiveness. Focusing on the
27 difference found, this research showed that institutional support is key to encouraging
28 environmental development, and chain affiliation companies feel stronger institutional
29 support, whereas independent companies feel a degree of help but not as intensely as
30 chains. These findings suggest the need for greater assistance from the government to
31 improve efficiency and efficacy in larger companies. Consequently, H8a is supported,
32 whereas H8b and H8c are rejected because both affiliations shape the same behaviour
33 and impacts.
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36 Finally, as previous research noted, a standardised environmental management system
37 provides a framework by which to deepen environmental development in two ways:
38 practises and performance. Thus, the increase in the use and intensity of cleaner
39 practises could determine environmental development and, therefore, the adoption of a
40 standardised environmental management system could exert a positive influence in both
41 areas (Yin and Schmeidler, 2008; Molina-Azorín et al., 2009b). Nevertheless, our
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3 findings are mixed. On the one hand, the effect of adoption of cleaner practices on
4 number and intensity is the same for both adopters and non-adopters of standardised
5 environmental management systems. On the other hand, the cleaner performance is
6 significantly higher in for adopters of standardised environmental management system,
7 specifically in some aspects that differentiate the company from its competitors and
8 enable the administration to win public support for cleaner production. That finding is
9 supported by previous research, which stressed the importance of standardised
10 environmental management systems in acting as a signal for the market in the building
11 of an environment compromise and image (Terlaak and King, 2006). Thus,
12 environmental management certification could be used as a strategic marketing tool or
13 as a requisite to access to certain public support to invest in new environmental
14 technology. Therefore, H9 is partially accepted.
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24 CONCLUSIONS

25 The results of this research provide evidence supporting a number of pertinent
26 conclusions for academics, managers and policy makers.
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28 First, the motivation to pursue cleaner practices is clear in the literature. Internally, this
29 motivation comes from improvements in operations performance, while externally, it
30 mainly results from hard regulation and stakeholder pressure.
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33 This research shows that, contrary to previous research, other companies exert little
34 effect in the adoption of cleaner practices, and institutional support is key to fostering
35 cleaner development beyond the internal motivations of large companies; however,
36 institutional support is more important for smaller companies.
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39 The main reason is that small companies may have few financial resources to invest in
40 consultations about the best practices for their business; institutional support could be a
41 source of learning and business improvement. Thus, institutions should focus on small
42 business with the aim of providing them with new capabilities to remain in the market.
43 Institutions should promote appropriate soft regulation for each industry rather than
44 only penalising them. Consequently, they would truly act as change drivers
45 collaborating to make small companies more competitive and generate health for the
46 country.
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3 Second, environmental development, in addition to the possibility of achieving new
4 capabilities, promotes market success factors. These factors are critical to maintain
5 performance in the market, especially in times of crisis, as some authors have noted.
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8 Companies should adopt cleaner practices, not only because of the possibility of
9 improved financial performance in terms of consumption savings (which can be
10 eliminated when rate goes up) but also because they encourage competitiveness through
11 the improvement of the company's image, promote better service due to employee
12 satisfaction and lead to customers valuing company more highly than its competitors.
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16 Finally, the adoption of a standardised environmental management system provides
17 extra benefits beyond environmentally cleaner performance. Companies that do not
18 adopt more advanced clean practices but are instead able to utilise their existing clean
19 practices more effectively can achieve higher external benefits that they can present to
20 new or existing customers as proof of a specific environmental compromise.
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24 At the same time, adoption of a standardised environmental management system
25 enables in-depth development of cleaner practices by putting the emphasis on access to
26 greater institutional support. Therefore, companies with a standardised environmental
27 management system could acquire additional market success factors or maximise the
28 current factors.
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33 Environmental management appears to be a profitable business. The involvement of
34 companies in cleaner practices leads to the acquisition of improved capabilities. This
35 fact is relevant for a number of reasons. First, in the restaurant industry there is a
36 predominance of small businesses with high consumption of electricity and water in
37 addition to greater waste generation, and these businesses need to control these costs.
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51 Environmental management is an important driver for companies in achieving a level of
52 differentiation and competitiveness, especially when they make a firm commitment and
53 feel institutional support in a partnership in which the company can learn and gain
54 advantages for their business.
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3 This study encourages policy makers to provide real support for companies and not only
4 penalise them or be passive participants. Active institutional support is capable of
5 producing quicker environmental development in the entire business system. This
6 situation will be positive for a company and for the advancement of national and global
7 environmental solutions. This institutional role should be focused predominantly on
8 small businesses because they represent more than 90% of the companies in Europe and
9 worldwide. The creation of wealth and growth worldwide is based on small companies.
10 Great support is required to fill critical gaps and achieve advantages in environmental
11 development.

12 This study introduces other issues to consider in future research, including whether
13 these results are valid in the tourist industry and others. This study is subject to certain
14 limitations, given that the fieldwork was performed in a specific geographical region
15 and that the study results may be difficult to extrapolate to other countries. Although
16 restaurants were surveyed, the conclusions may be applied to other sectors because of
17 the economic importance of this industry in Spain.

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Table 1. Factor loadings and internal and reliability statistics

	Dimensions	Description	Load	α	CR	AVE	References
ENVIRONMENTAL CONTEXT	COMPETITORS	Competitors adopt environmental protection measures	.864	.844	.846	.649	Malik and Kotabe, 2009; Fernandez-Viñe et al., (2013)
		Many tourist firms adopt environmental protection measures	.719				
		The organisations in the field adopt environmental protection measures	.827				
	INSTITUTION. SUPPORT	Government frequently reminds about the moral obligation to protect the environment	.739	.830	.832	.555	
		Government informs about how to protect the environment	.822				
		Government encourages how to identify the firm as a green business	.748				
		Government promotes activities to protect the environment in the industry	.664				
ENVIRONMENTAL DEVELOPMENT	CLEANER PRACTICES	Your organisation buys ecological products	.661	.796	.853	.54	Alvarez-Gil et al. (2001); Molina-Azorín et al. (2009b); Pereira-Moliner et al. (2012) Aragon-Correa (2008); Chan and Hawkins, (2010)
		Your organisation has reduced the use of cleaning products that are harmful to the environment	.703				
		Your organisation implements energy-saving practices	.769				
		Your organisation implements water-saving practices	.807				
		Your organisation implements the selective collection of solid residues	.726				
	CLEANER PERFORM.	Environmental protection activities allow your organisation to reduce the total cost of operations	.743	.917	.918	.619	
		Environmental protection activities allow your organisation to reduce water and electricity consumption	.745				
		Environmental protection activities allow your organisation to attract new customer and keep the current ones	.842				
		Environmental protection activities allow your organisation to differentiate itself from your competitors	.815				
		Environmental protection activities allow your organisation to reduce the risk of accidents and legal action	.792				
		Environmental protection activities allow your organisation to improve business	.878				
		Environmental protection activities allow your organisation to enable the management to win public support for cleaner production	.675				
ENVIRONMENTAL PERFORMANCE	MARKET SUCCESS FACTORS	Company's image has been improved	.748	.852	.911	.773	Alvarez-Gil et al. (2001); Aragon-Correa (2008); Molina-Azorín et al. (2009b); Lopez-Gamero et al., (2009); Zeng et al. (2010); Pereira-Moliner et al., (2012)
		Customer satisfaction level is higher than that of competitors	.861				
		Employee satisfaction level is higher than that of competitors	.831				
	FINANCIAL PERFORM.	Sales have increased over the last two years	.809	.873	.877	.705	
		Profits have increased over the last two years	.921				
		Customer occupancy rate increased over the last two years	.784				

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Table 2. Correlation analysis and discriminant validity

	Competitors	Institutional support	Cleaner practices	Cleaner performance	Market success factors	Financial performance
Competitors	.806 ¹					
Institutional support	.654**	.745				
Cleaner practices	.270**	.335**	.735			
Cleaner performance	.480**	.522**	.559**	.787		
Market success factors	.044	.042	.246**	.213**	.879	
Financial performance	.168**	.162**	-.050	.088	.148**	.840
Mean	3.217	2.873	4.735	3.654	5.716	1.681
Standard deviation	1.776	1.896	1.982	1.930	1.336	.952

¹ square root of average variance extracted in the diagonal

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Table 3. Indices tested for the model fit

Assessment item	Values
X ² (chi-square) ¹	538.6676
X ² /df (normed chi-square)	2.009
BB-NN (Bentler-Bonett non-normed fit index)	.907
CFI (comparative fit index)	.917
RMSEA (root mean square error of approx.)	.060

¹ Satorra-Bentler scaled Chi-Square

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Table 4. Standardised values and statistics according affiliation

		COMPET. ↔ INSTITUT.	COMPET. → CLEANER PRACTIC.	INSTITUT. → CLEANER PRACTIC.	CLEANER PRACTIC. → CLEANER PERF.	CLEANER PERF. → MSF	CLEANER PERF. → FP	MSF → FP	Fit indices
Chain	β	.819	.004	.424	.576	.216	-.008	.211	X2/df= 1.578 BB-NNFI= .920 CFI= .929 RMSEA= .054
	Stat. ¹	16.136**	.023	2.141**	4.363**	2.544**	-.101	2.431**	
Indep.	β	.830	-.473	.964	.802	.325	.070	.233	X2/df= 1.628 BB-NNFI= .890 CFI= .902 RMSEA= .068
	Stat.	1.947**	-1.635	3.347**	6.782**	2.819**	.654	2.604**	

¹ Robust method

** statistic significant at 0.05 level

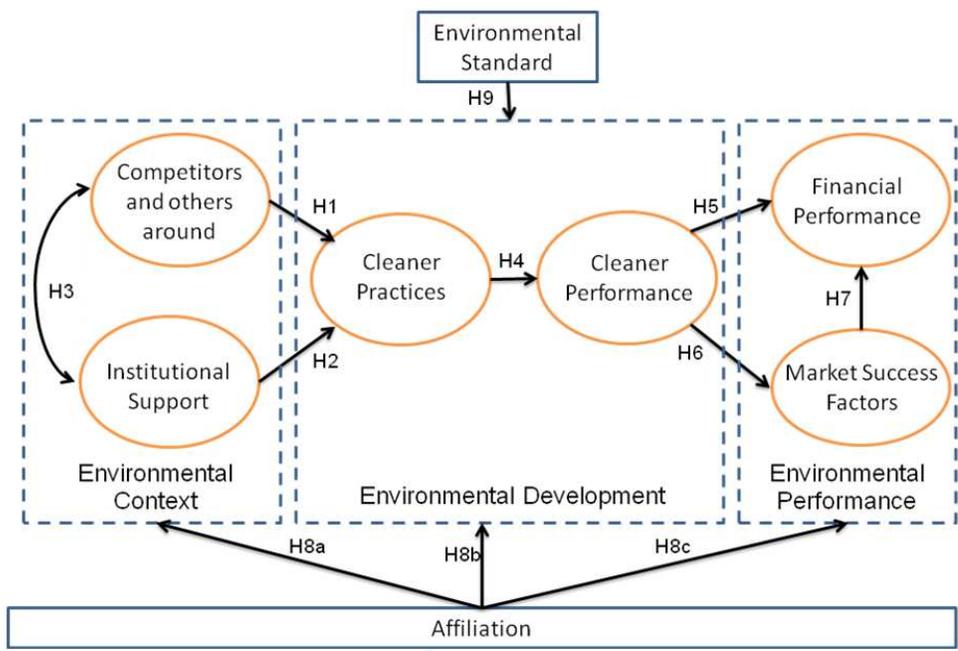
Table 5. Non-parametric analysis for CLEANER PRACTICES and CLEANER PERFORMANCE dimensions

	CLEANPRACT1	CLEANPRACT2	CLEANPRACT3	CLEANPRACT4	CLEANPRACT5
U Mann-Whitney	10619.500	10629.500	10432.500	9722.000	10418.000
W Wilcoxon	3788.500	15094.500	14897.500	1400.000	14789.000
Z	-.434	-.177	-.319	-1.164	-.443
Significance (bilateral)	.664	.859	.749	.244	.658

	ENVPERF1	ENVPERF2	ENVPERF3	ENVPERF4	ENVPERF5	ENVPERF6	ENVPERF7
U Mann-Whitney	9721.000	1006.500	1003.000	8218.500	9599.000	8981.000	840.000
W Wilcoxon	35599.000	14338.500	14125.000	34096.500	35477.000	34406.000	34051.000
Z	-.831	-.577	-.254	-2.888	-.847	-1.291	-2.339
Significance (bilateral)	.406	.564	.799	.004	.397	.197	.019

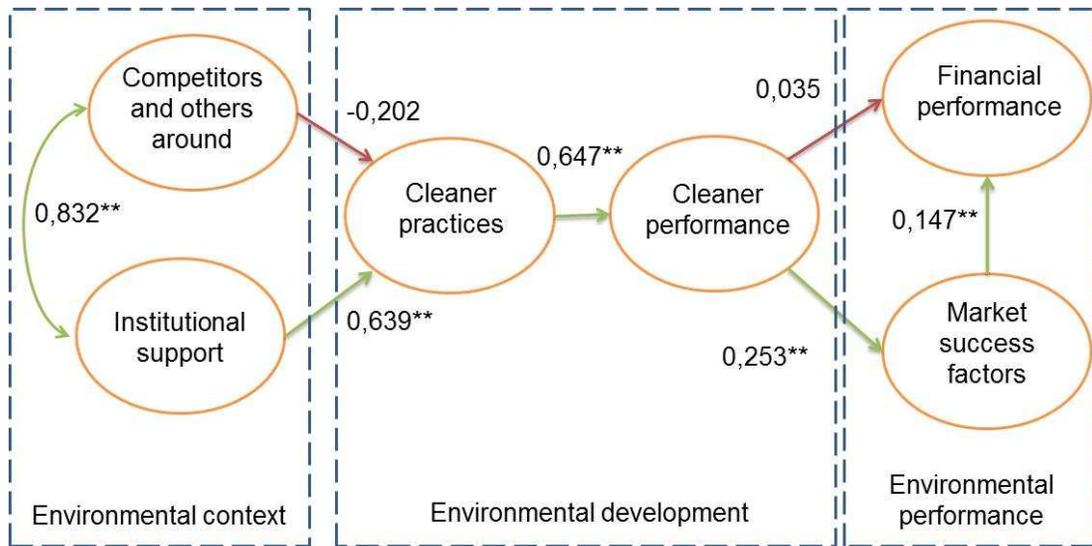
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Figure 1. Proposed model



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Figure 2. Standardised solution of the causal model



** p-value significant at 0.05 level (robust method)

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