Environmental Management in Hotel Units of the Province of Huelva (Spain)

ALFONSO VARGAS SÁNCHEZ * [vargas@uhu.es]
ROSA MARÍA VACA ACOSTA ** [rosa.maria@dem.uhu.es]
ELENA GARCÍA DE SOTO CAMACHO *** [elena.gardeso@dem.uhu.es]

Abstract | In this paper, the characterization of the hotels located in the Spanish province of Huelva was carried out from three points of view. First, the level of development of their systems of environmental management; secondly, the vision that the people in charge of these units have of the consequences of environmental measures on the competitiveness of the company, and finally, the managers' perception of the influence of a series of factors which pressurized the adoption of these environmental measures.

The possible link among these three elements is also treated, and a statistically significant and strong (positive) relation between the level of development of environmental management systems and the level of pressure exerted by the determining factors of the environmental preoccupation of the company was found. This did not happen with the perception of the relation company-environment. The control variables, category, type of location and size of the hotel which were considered, do not seem to condition these co-relations.

The methodology used includes a univariable, bivariable and multivariable statistical treatment.

Keywords | Tourist Firm, Hospitality Sector, Environmental Management.

Resumo | Neste artigo realizou-se uma caracterização dos hotéis situados na província espanhola de Huelva segundo três aspectos: o nível de desenvolvimento dos seus sistemas de gestão ambiental; a visão que os responsáveis destas unidades possuem das vantagens da adopção de medidas ambientais na competitividade da empresa e, finalmente, a percepção dos gestores sobre a influência de diversos factores que conduzem à adopção destas medidas ambientais.

A possível ligação entre estes três aspectos foi também abordada, e verificou-se uma relação estatística significativa e positiva entre o nível de desenvolvimento dos sistemas de gestão ambiental e o nível de pressão exercido pelos factores determinantes da preocupação ambiental da empresa. Este facto não se verificou com a percepção da relação empresa--ambiente. As variáveis de controlo que foram consideradas – categoria, localização e tamanho do hotel – parecem não condicionar estas correlações.

A metodologia utilizada inclui um tratamento estatístico univariável, bivariável e multivariável.

Palavras-chave | Empresa Turística, Sector Hoteleiro, Gestão Ambiental.

* **PhD in Business Administration** at the University of Seville. **Full Professor** at the University of Huelva and **Head** of the Research Group GEIDETUR – Innovation and Development Strategies in Tourist Firms.
** **MSc in Business Administration** at the University of Huelva. **Lecturer** at the University of Huelva and **Member** of the Research Group GEIDETUR.
*** **MSc in Business Administration** at the University of Huelva. **Lecturer** at the University of Huelva and **Member** of the Research Group GEIDETUR.

1. Introduction

The consciousness and controversy generated by the environmental question in the Spanish province of Huelva are very profound; without a doubt, they are the result not only of a natural heritage which must be preserved (protected natural spaces) but also of an economic development which sometimes has put it at risk. The development of industry, agriculture and, more recently, tourism, has a serious impact on the environment, at the same time as being determined (or limited) by the latter.

In order to dimension the weight of the tourist sector in the provincial economy, we agree with Plaza and Porras (2002: 41) that "compared with the traditional identification of tourism with the *Hotel business and Restaurants* sector, which annually provides 5% of the provincial Gross Value Added (GVA), the capture of significance from the precise viewpoint of demand leads us to confirm that tourist activities in Huelva approximately generate 8,5% of the total GVA every year in this province; a ridiculous percentage compared to the 15,6% which they represent in Andalusia (Porras, 2002), which is a clear sign of the little advantage taken of the tourism potential of the province of Huelva".

However, the growth of the hotel industry in this province is very interesting, within a profile marked by the predominance of sun and beach tourism. Thus, of the 69 hotel items in existence up until the close date of this paper (October 2003), 46,4 per cent (32) are catalogued as being of three, four or five stars, there having been a considerable increase in the number of better quality hotels in the last few years; all the four and five star hotels (15 and 2 hotels, respectively) have a beach location. Total hotel accomodation in the province of Huelva amounts to 13 120 persons.

In addition, a clear positive correlation between the category of the establishments (number of stars) and the number of vacancies offered has been detected[1], most of these being of a higher category (especially four stars, at 52,3 per cent).

The following Tables (1 and 2) show the most representative magnitudes.

Table 1 | Hotels of the province of Huelva

Stars	No.	%	Cumulative (%)	Vacancies	%	Cumulative (%)
*	12	17,4	17,4	458	3,5	3,5
**	25	36,2	53,6	1 326	10,1	13,6
***	15	21,7	75,4	4 046	30,8	44,4
****	15	21,7	97,1	6 866	52,3	96,7
*****	2	2,9	100,0	424	3,3	100,0
Total	69	100,0	–	13 120	100,0	–

Table 2 | Hotels of the province of Huelva

Stars	Size			No.
	Small (<100 Vacancies)	Medium (100-350 Vacancies)	Large (>350 Vacancies)	
*	12	–	–	12
**	24	1	–	25
***	5	7	3	15
****	–	5	10	15
*****	1	1	–	2
No.	42	14	13	69
%	60,9	20,3	18,8	100,0
Cumulative (%)	60,9	81,2	100,0	–

With regards to environmental and quality management systems, certain data reveal that there is still a long road to be followed in this sector of the economy of Huelva:

- Neither of the establishments has been certified with the Tourist Quality Q, a quality mark given by the Institute for Spanish Tourist Quality (ICTE).
- Only the two "Paradores de Turismo" (Mazagón and Ayamonte) are certified in accordance with the Environmental Management and Audit System (EMAS). Due to this, in the provincial hotel sector, we will consider these two establishments as the benchmark.
- Apart from these "Paradores"[2], just two other establishments are in the process of obtaining the ISO 14001 certification.

[1] Pearson's correlation index is 0.571, significant to the level 0.01 (bilateral).

[2] "Paradores" is a state network of tourist establishments and facilities. The company's capital shares are 100 percent publicly owned and the company is responsible for the management of the hotels. Ownership of the majority of the buildings, however, belongs to the National Heritage Service. More info: http://www.parador.es/english/index.jsp.

2. Objectives, hypothesis and methodology used

Due to its natural conditions, the province of Huelva, as a tourist destination, may become a reference model, only if environmental criteria are taken into account when planning and carrying out the development of the sector. Those responsible for the arrangement of the sector have accepted more and more that this is the only way to ensure an offer of a greater quality and attractiveness, with possibilities of surviving. The wealth and socio--economic advance that the growth of tourism in the province of Huelva has to generate (with more hotels and golf courses), have to be accompanied by a sustainable development that is compatible with the environment and, of course, by the economic viability of the projects that will be undertaken. This point of view is considered in the Strategic Plan of Tourist Development of the Province of Huelva, whose Program no. 37 (Qualification of Hotel Accomodation) contains, among other measures, the drawing up of manuals of the best hotel environmental practices. Similarly, certain initiatives such as that of the "Fundación Doñana 21" and its quality label named "Etiqueta de Calidad Doñana 21", clearly follow this trend, with a specific program for tourism inside the Sustainable Development Plan of this region[3].

Enterprises themselves have to contribute to this scenario by introducing environmental management systems in order to situate themselves in a preventive position within it, not merely one of control (reactive) over the impact that their respective activities produce in the environment. Therefore, in this paper[4] we have set up as our *first objective* the assessment of the environmental management system (EMS) of the hotels located in the province of Huelva, in order to discover their level of sophistication according to the practices performed. With this aim in mind, following the "Guía de Buenas Prácticas" (Guide of Good Practices) created by Vargas, Vaca and García de Soto (2003), a questionnaire made up of 143 items has been elaborated, in which each of the practices composing it has to be valued on a Likert type scale from 1 to 5, in which 1 means total disagreement and 5 corresponds to total agreement. The structure of this questionnaire[5] is presented in Table 3.

However, the specialized literature alerts us about the motivations affecting the commencement and the level of development of these systems.

Table 3 | Chapters of the questionnaire on the environmental management systems of the hotels

	No. of items
Organization and human resources	6
Information and consciousness	13
Water saving	18
Energy Saving	26
Lighting	14
Other points of energy saving	11
Eco-consumption	19
Waste management	14
Noise and vibrations	16
Transport	6

[3] Please see: http://www.donana.es/desasost02_04.htm. With this initiative we intend to guarantee the protection of the environment in a balanced way with socioeconomic necessities. The enterprises that have been united incorporate systems of quality assurance (ISO 9001) and environmental management (ISO 14001). Further details concerning requirements for the obtention of the Quality Label of Doñana 21 can be found in the URL: http://www.donanacalidad.com/requisitos.php.
Neither of the hotel establishments have been included as yet.

[4] Which is part of a wider study about environmental practices in the tourist sector (golf courses, hotels and rural accommodation) of the province of Huelva. A "Guía de Buenas Prácticas Ambientales" (Guide of Good Environmental Practices) has been created for the hotel sector, taking as a main reference the "Guía Práctica para la Gestión Medioambiental en Hoteles" (a Practical Guide for Hotel Environmental Management) of the Region of Madrid, among other sources (including our "benchmark") which contributed to the enrichment of the final document.

[5] The questionnaire, according to the followed guide of good practices, contains a first section (A), composed of six items, relating to the necessity of adopting environmental policies, which has not been considered in this paper because it does not refer to the environmental system itself and its practices. However, its results are congruent with the ones reflected in itself, as it turns out that the main motivation in order to move forward in this field is of a legal nature, rather than competitive or market-related.

Thus, the perception of managers with responsibilities in this matter, concerning the relationship between environment and enterprise, that is, concerning the consequences of environmental practices for business competitiveness, has proved to be one of the most important factors in explaining the greater or lesser advance of these systems within enterprises (Ashford, 1993; Dieleman and De Hoo, 1993).

Consequently, our *second objective* is to discover these perceptions and their possible influence on the level of development of the environmental management systems of the hotels. We consider that the existing theoretical basis permits us to formulate the following *hypothesis (no.1)*: "The more managers consider that environmental protection constitutes an important obstacle to the competitiveness of their companies, the less advanced the level of development of their environmental actions will be" (Del Brío, Fernández and Junquera, 2003: 157).

Moreover, the existence of pressure factors[6] forcing the adoption of environmental practices is another variable shown in the literature, with the purpose described previously. Therefore, finding out the perception of these managers concerning the influence of those factors upon the environmental action of the enterprise, as well as their possible effects on the level of development of the environmental management system of the organization, constitutes the *third objective* of this study. These factors, therefore, become opportunities for the increase and improvement of the actions of the enterprise in this field.

In short, taking as a reference the findings of Ashford (1993), Dieleman and De Hoo (1993) and others, we formulate the following *hypothesis (no.2)*: "The more managers consider that environmental protection can be a source of opportunities (improvement of image, position in the market, decrease of costs, among others), the more they develop more advanced environmental approaches in their companies" (Del Brío, Fernández and Junquera, 2003:157).

As a result, the investigation is about contributing empirical evidence to the fulfillment of these hypotheses. For this, we have to make clear how we are going to measure the variables involved in the research.

– "Degree of development of the EMS" variable: Mean of the valuation of the chapters integrating the auto diagnosis questionnaire. It is a scalar variable ranging between 1 and 5; these values indicate, respectively, the minimum and maximum level of system development.

– "Consequences of environmental practices for competitiveness" variable: A 1-5 Likert scale composed of six items has been used, taken from Del Brío, Fernández and Junquera (2003). One must take into account that the way the items are formulated, the greater the score each one obtains, the smaller the perception concerning the relationship between the enterprise and the environment.

– "Influence of pressure factors on the adoption of environmental measures" variable: The 1-5 semantic differential scale of six items used by Del Brío, Fernández and Junquera (2003)[7] has been adopted.

The three, four and five star hotels have constituted the reference population for the carrying out of this study, a total of 32, distributed as follows (Table 4).

This information about the focus population indicates that, as well as the size (measured through the number of vacancies) and the category of the establishment (number of stars), the location (beach, mountains or city) is also used as a control variable.

Table 4 | Population

Stars	No.	Vacancies
***	15	4 046
****	15	6 866
*****	2	424
Total	32	11 336
% s/provincial total	46,4	86,4

[6] The so-called "subjective rules" in Ajzen's theory of planned behaviour (1985, 1987, 1991).

[7] Actually, there has been an open seventh item in order to indicate and value another possible pressure factor, which has not been considered in this study.

These are classic variables of contingency, frequently used in order to characterize the hotel sector, and in this case they could influence the environmental development of these organizations.

The complete questionnaire[8], with the three indicated sections, was given to the hotel managers in the months of March, April and May 2003, with a level of participation or answer ratio of 81,25 per cent (80,53 per cent of the number of total vacancies).

The characteristics of the sample, composed of 26 observations[9], are as follows (Figure 1, Figure 2, Figure 3).

Statistical treatment of the data has been performed using SPSS 11.0 software for Windows.

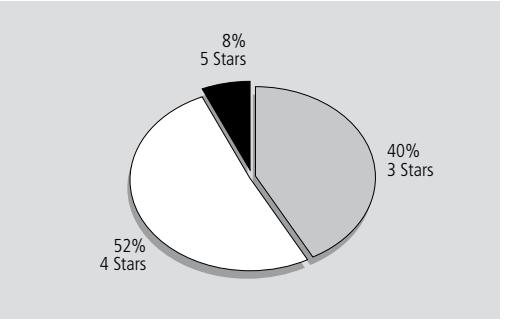

Figure 1 | Distribution of the sample by categories.

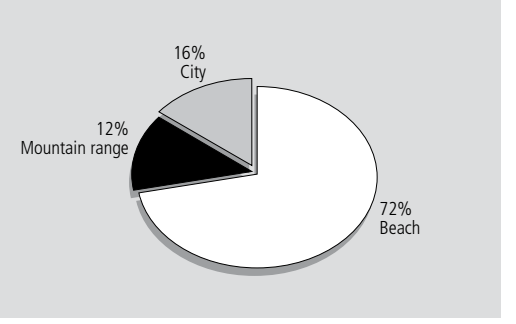

Figure 2 | Distribution of the sample by locations.

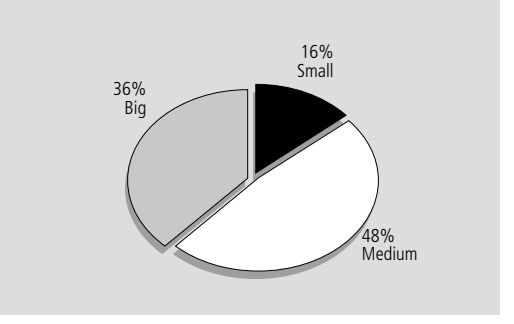

Figure 3 | Distribution of the sample by sizes (No. vacancies).

3. Results

3.1. Degree of development of the EMS

The global evaluation of environmental management systems in the hotels of the province of Huelva reached an average value of 3.4943 (out of 5), which reveals a space for the improvement of this aspect of environmental management, taking into account that the dispersion (typical deviation of 0.72592) is not excessively high, though it also reveals a certain heterogeneity, with a minimum of 2.10 and a maximum of 4.79.

As shown in Table 5, the differences between the chapters of the questionnaire are considerable.

As can be noticed, the subheadings B and C are, in general, the main weaknesses and therefore, the most liable to generate a wider improvement.

[8] It is not represented here for reasons of space, due to its extensiveness.

[9] For recount purposes, 25 have been considered, since two hotels form a unique registry because there is only one management unit for the two.

Table 5 | Degree of development of the EMS. Results by chapters

Statistics	B	C	D	E	F	G	H	I	J	K
Mean	2.8533	2.9538	3.3033	3.5760	3.7728	4.1164	3.7958	3.2154	3.5286	3.8273
Typical deviation	1.18177	0.96743	0.79662	0.73355	0.81153	0.87626	0.75755	1.01520	1.01436	0.96127

B – Organization and human resources; C – Information and consciousness; D – Water saving; E – Energy saving; F – Lighting; G – Other points of energy saving; H – Eco-consumption; I – Waste management; J – Noise and vibrations; K – Transport.

3.2. Consequences of environmental practices on competitiveness

The univariable descriptive statistics produced the following values (Table 6), taking into account that the scale used showed an internal consistency or reliability, measured using Cronbach's alpha parameter, of 0.7857.

In general, the perception of the relationship between the environment and the enterprise is not negative with regards to any of the factors considered. In fact, the average valuation of these consequences is of 2.1187, with a standard deviation of 0.89453, although the one which receives a less positive valuation is the consideration of additional costs representing these measures (2.48).

However, taking as a whole the perceptions concerning those six possible consequences of environmental action, four archetypes of behavior have been identified, through a hierarchical cluster analysis[10] inside the considered set of hotels[11] (Figure 4).

A – The most numerous corresponds to that of the hotel units (14) with a clearly positive vision of the relationship between environmental management and competitiveness. In fact, the mean valuation granted to the consequences of the environment for the economic activity of their hotels is of 1.49.

B – The rest carry out a medium valuation, with the clear exception of two hotels, in which the whole consideration of environmental preoccupation stands out as a temporary fashion trend and as a disadvantage because of the additional costs conveyed to the enterprise.

C – The last group, whose perception is generally positive (the average valuation is of 2.44), is distinguished from the first one above all for being completely in agreement with the asseveration that the environment care supposes an additional cost and not an opportunity. It is integrated by three hotels.

Finally, through the Kruskal-Wallis non-parametric test, it has been proved that there are no statistically significant differences between one conglomeration and another as to the degree of development of the EMS.

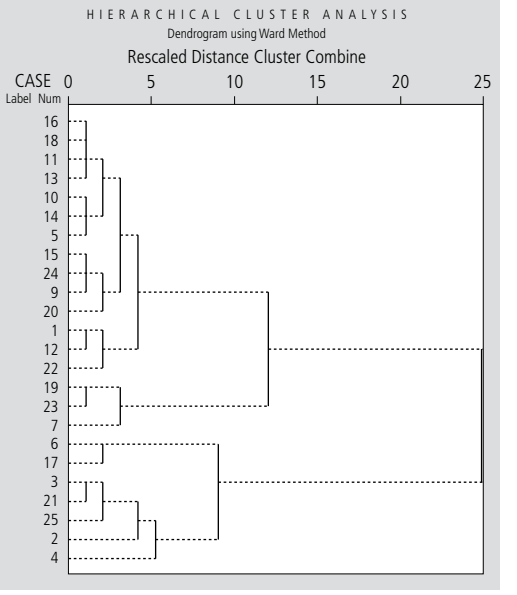

Figure 4 | Dendrogram.

[10] This technique has been applied using the squared Euclidean distance as a dissimilitude measurement and Ward method as a conglomerate method.

[11] The discriminate analysis which has been carried out sufficiently supports this grouping, because 75% of the original grouped cases are correctly classified.

Table 6 | Univariable descriptive statistics

Statistics	Curb to the growth	Temporal mode	Negative environmentalist	Additional cost	Only in periods of economic prosperity	Solution in new technologies
Mean	2.08	1.92	2.33	2.48	1.96	1.92
Median	2.00	1.00	2.00	2.00	2.00	2.00
Mode	1	1	2	1	1	1
Minimum	1	1	1	1	1	1
Maximum	5	5	5	5	5	5

3.3. Influence of pressure factors on the adoption of environmental measures

The univariable descriptive statistics produced the following values (Table 7), taking into account that the scale used showed an internal consistency or reliability, measured through Cronbach's alpha parameter, of 0.8257.

On average, perception of the influence of these factors is quite high (4.14, with a typical deviation of 0.36423), with the search for a better image and their socially responsible action, followed by legal obligations, standing out as the main causes of environmental preoccupation in these organizations. Market demand is also seen as an important factor in inducing the adoption of this type of practice, as well as the reduction of costs (greater efficiency). In contrast, business associations and their recommendations are considered as the least determinant factor.

However, and as in the previous subepigraph, we have carried out a hierarchical cluster analysis[12], as a result of which we have obtained three conglomerations or archetypes, in the light of the following dendrogram, according to the influence exerted by the six pressure factors considered[13] (12) (Figure 5).

A – The most numerous corresponds to hotels (twelve) which consider environmental pressure factors to exert a very strong influence on their activities. The average valuation made by the group is of 4.68, so it is possible to interpret these factors as opportunities for intensifying the adoption of respectful practices with regards to the environment.

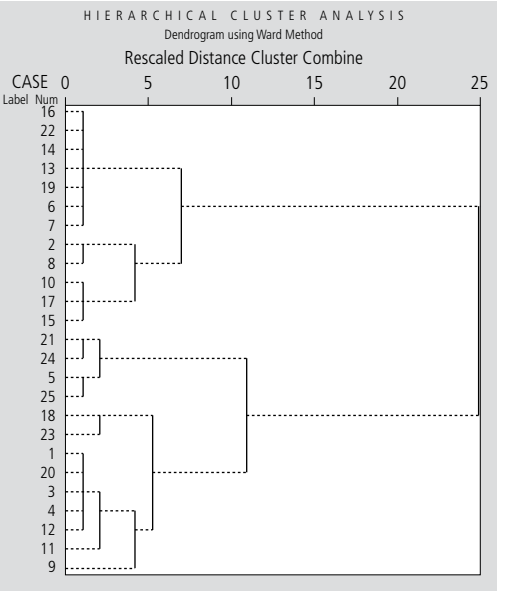

Figure 5 | Dendrogram.

B – The second conglomeration is formed by four hotels, with an average score of 2.87: the lowest. In other words, they are organizations that do not perceive a large influence of the environmental pressure factors.

C – Finally, we also find an archetype represented by nine hotels, with a global intermediate score with regards to the two previous ones, although this score is also high (3.98).

[12] This technique has been applied using the squared Euclidean distance as a dissimilitude measurement and Ward method as a conglomerate method.

[13] The discriminate analysis confirms this grouping, because 84% of the original grouped cases are correctly classified.

Table 7 | Univariable descriptive statistics

Statistics	Legislation	Social responsibility	Image	Market demand	Business association	Efficiency
Mean	4.36	4.44	4.52	4.08	3.44	4.00
Median	5.00	5.00	5.00	4.00	4.00	4.00
Mode	5	5	5	5	3[(a)]	4[(a)]
Minimum	3	3	2	2	1	2
Maximum	5	5	5	5	5	5

(a) There are several modes. The lowest of the values is shown.

The Kruskal-Wallis non-parametric test permitted us to detect differences statistically significant in the degree of development of the EMS of the conglomerations mentioned, which appears to be larger as the influence of pressure factors increases. In fact, Pearson's coefficient shows a positive correlation between the degree of development of the EMS and the level of influence of the pressure factors of 0.582, to be precise, with a level of bilateral significance of 0.002.

3.4. Correlations among variables

No significant correlation exists between the variables "Consequences of environmental practices upon competitiveness" and "Degree of development of the EMS". In other words, the latter does not seem to depend on how the consequences of the relationship between the environment and the enterprise are perceived; and neither is it influenced by the size, location or category of the hotel (control variables).

However, as previously explained, a strong and significant correlation (0.582) does exist between the "Degree of development of the EMS" and the "Influence of the pressure factors on the adoption of environmental measures". That is, the more the enterprises are pressurized, the more these enterprises will develop their environmental management system. However, no evidence has been detected that this influence is conditioned by the control variables, as the partial correlations showed very similar values.

Neither does there exist a significant correlation between the "Consequences of environmental practices upon competitiveness" and the "Influence of the pressure factors on the adoption of environmental measures". None of them seems to be affected by the control variables considered.

4. Conclusions and recommendations

As far as the *first focus* is concerned, the measure of the degree of development of the EMS of the hotels located in the province of Huelva, it has been possible to confirm through the autoevaluation made by the people responsible that, in general, there is ample room for the improvement of these management systems, with the existence of great diversity of situations among them. Nevertheless, in most cases the following areas are those which require the greatest attention when acting upon these systems:

– Organization and human resources.

– Information and consciousness.

As for the *second focus*, the perception of the relationship between environment care and business is not negative in general. In fact, according to the identified archetypes, the most extended vision concerning the consequences of environmental practices about competitiveness is clearly positive. However, we have not found solid evidence supporting the *hypothesis (no.1)* of relationship between this perception and the degree of development of the EMS.

With regards to the *third* (and final) *focus* of the research, linked to the causes of environmental preoccupation of the enterprises, the general perception is that the influence of the pressure factors considered on the adoption of environmental measures is quite high, not only by virtue of the univariable statistic analysis, but also of the multivariable one (cluster analysis). This influence comes, above all, from image and social responsibility of the organization, as well as from legal obligations and, to a lesser extent, from market demand and from the search for efficiency. We have also noticed the lack of pressure still exerted by business associations.

It is important to underline the existence of a significant and strong positive correlation between

the influence of the environmental pressure factors and the degree of development of the EMS, which is understood as sufficient evidence in order to accept *hypothesis no.2*.

Everything described above generates a series of implications for the management of these organizations which we consider both significant and useful for public management entities involved in the planning and promotion of the tourist sector of the province of Huelva:

– The EMS of the hotels must be generally improved, and a great deal so in certain aspects underlined previously. Stimulation of certification processes is a clear road towards achieving this.

– In order to develop these systems it is not sufficient to just get the managers of these organizations to have a positive vision of the relationship between environment and enterprise, that is, of the consequences of actions directed towards environmental care for business competitiveness (although this is necessary).

– Moreover, a strong pressure should be exerted on them, and those identified as the weakest should be increased: on the one hand, business associations must play a more active role in the promotion of more advanced EMS; on the other hand, it is expected that the market, its demand, should develop along the lines of a larger requirement of respect for the environment, and, from a proactive attitude, hotel companies must prepare themselves for this new situation.

In spite of the relatively reduced size of the sector, the behavior of its integrants in the field object of analysis is not homogeneous, as has been made clear with the characterization of different clusters. The identification of this variety is important for adapting the measures taken according to the peculiarities of each case or group of cases (segments); that way they will be more efficient. This variety does not seem to maintain a relationship with the category of the hotel, its location or its size.

The heterogeneity of the sector is considerable, shown in Figure 6, in which the lines of reference express the respective means.

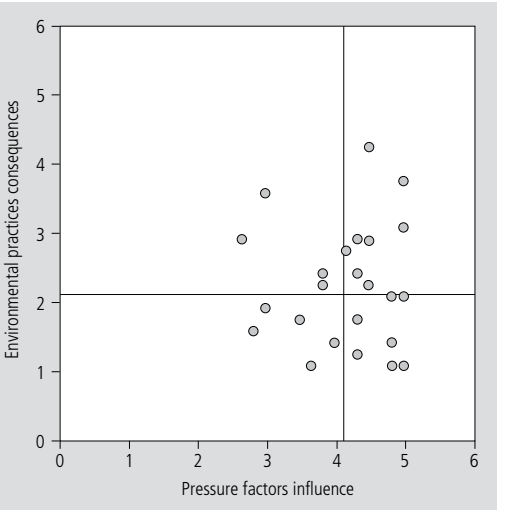

Figure 6 | Heterogeneity of the hotel sector of Huelva.

References

Ajzen, I., 1987, Attitudes, traits and actions: Dispositional prediction of behaviour in personality and social psychology, in Berkowitz, L., (ed) *Advances in experimental social psychology*, Academic Press, New York, pp. 1-63.

Ajzen, I., 1985, From intentions to actions: A theory of planned behavior, in Kuhl, J., Beckmann, J., (eds) *Action control: From cognition to behavior*, Springer-Verlag, New York, pp. 11-38.

Ajzen, I., 1991, The theory of planned behavior, *Organization Behavior and Human Decision Processes*, Vol. 50, pp. 179-211.

Aragón, J.A., 1998, *Empresa y medio ambiente: gestión estratégica de las oportunidades medioambientales*, Comares, Granada.

Ashford, N.A., 1993, Understanding technological responses of industrial firms to environmental problems: Implications for government policy, in Schot, J., Fischer, K., (eds) *Environmental strategies for industry: International perspectives on research needs and policy implications*, Island Press, Washington, pp. 277-307.

Del Brío, J.A., Fernández, E., Junquera, B., 2003, Implantación de sistemas de gestión medioambiental en las empresas industriales españolas: un análisis empírico de la influencia de las actitudes y de las actuaciones directivas, *Investigaciones Europeas de Dirección y Economía de la Empresa*, Vol. 9(1), pp. 155-178.

Dieleman, H., De Hoo, S., 1993, Toward a tailor-made process of pollution prevention and cleaner production: Results and implications of the PRISMA project, in Fischer, K., Schot, J., (eds) *Environmental strategies for industry: International perspectives on research needs and policy implications*, Island Press, Washington, pp. 245-275.

Diputación de Huelva, 2003, *Plan Estratégico de Desarrollo Turístico de la Provincia de Huelva*, Huelva.

Enz, C.A., Siguaw, J.A., 1999, Best Hotel Environmental Practices, *Hotel and Restaurant Administration Quarterly*, October, pp. 72-77.

European Commission, 2002, European tourism forum 2002 – Agenda 21. Sustainability in the European tourism sector, Background document, Brussels, 10 December.

Fundación Doñana 21, 2003, *Etiqueta Doñana 21. Reglamento de uso y gestión, Fundación Doñana 21*, [http://www.donana.es/], (Site Accessed 10 September 2003).

García, A., Ortega, S., 2003, *Guía de buenas prácticas ambientales para alojamientos turísticos de la Hoya de Huelva*, Fundación Ecología y Desarrollo, Zaragoza.

International Hotels Environmental Initiative, 1997, Ten eco-tips for hotels, *Tomorrow*, Vol. 4, July-August, pp. 17.

Organización Mundial del Turismo, World Travel and Tourism Council, 1997, Agenda 21 for Travel and Tourism lists 10 key priorities, *Tomorrow*, Vol. 4, July-August, pp. 10.

Pils, M., 2003, *Destination indicators for tourism, sustainable development and quality management*, Draft Report, European LIFE Project "Visit-Voluntary Initiatives for Sustainability in Tourism", Italy.

Plaza, M.A., Porras, N., 2002, La actividad turística en la provincia de Huelva: en búsqueda de la panacea para la economía onubense, in Hernández, M.J., Jiménez, J.A., Vargas, A. (Coord.), *Estrategias de empresas en sectores competitivos de Andalucía*, Universidad de Málaga, Málaga, pp. 39-52.

Porras, N., 2002, El sector turístico onubense y la gestión de empresas de alojamiento y restauración: un estudio comparativo a nivel regional, *Actas de las XII Jornadas Luso-Espanholas de Gestão Científica*, Vol. VIII, pp. 154-163.

Santamarta, J., 2000, Turismo y medio ambiente, *World-Watch*, Vol. 11, pp. 52-55.

Vargas, A., Vaca, R.M., García de Soto, E., 2003, *Guía de Buenas Prácticas Ambientales. Sector Turismo*, Fundación Biodiversidad, Huelva.

Vargas, A., Vaca, R.M., García de Soto, E., 2004, *Turismo y medioambiente. Diagnóstico medioambiental de los alojamientos rurales en la provincia de Huelva*, Fundación Biodiversidad, Huelva.

Villamil, A., Maties, J., 2002, *Política Económica del Medio Ambiente. Aplicaciones empresariales*, Centro de Estudios Ramón Areces, Madrid.

Yepes, V., 2000, Influencia de la calidad del proyecto y diseño de un hotel en la protección medioambiental, *Forum Calidad*, Vol. 113, pp. 28-34.

[**Submitted** 15 June 2005; **accepted** 26 July 2006]