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Good environmental practices in the hospitality sector: the case of the Algarve

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Abstract
The emergence of serious socio-environmental problems, during the later half of the 20th century, started an intense mobilization which aimed to find a new model of development which would allow the equilibrium of economic, social and environmental issues. This new paradigm, known as sustainable development, started at the beginning of 1970s, bringing along the humanization of the concept of development, thereafter including the concern with preserving our resources for the future generations. This new perspective quickly spread out through the tourism industry, since tourism is a crucial factor for economic development, and gathers enormous potential to promote better social and environmental conditions which, in turn, contribute to the sustainable development of communities and in-coming countries. The hotel sector, as the main component of the tourism product, interacts directly with the environment and its activity causes important negative impacts. Thus, since the 1990s, this sector began to adopt several spontaneous initiatives in order to improve its environmental behavior. Amongst these initiatives, the most common are the codes of conduct, good environmental practices, eco-tags and the EMS (Environment Management Systems). This study analyses how good environmental practices have been experienced and implemented by hotels in the Algarve region (Portugal) and aims to assess the hotels' contribution for sustainable tourism in the region. The main results indicate that the environmental practices considered are still insufficiently implemented, with the best results being for those related to energy management. The majority of the hotels contacted have neither an environmental management system nor any kind of environmental certification, leading to the conclusion that the hotel sector in the Algarve should be investing more, and more effectively, in the implementation of environmental actions that will allow it to contribute in a more significant manner to tourism sustainability in the region.

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Palavras-chave
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Turismo sustentável

Resumo
A emergência de graves problemas sócio-ambientais, durante a segunda metade do século XX, deu origem a uma intensa mobilização no sentido de encontrar um novo modelo de desenvolvimento que permitisse compatibilizar os aspectos económicos, sociais e ambientais. Este novo paradigma, conhecido como desenvolvimento sustentável, surge na década 70 e traz consigo uma humanização do conceito de desenvolvimento, passando a incluir a preocupação com a preservação dos recursos para as gerações futuras. Esta nova perspectiva depressa se estende à indústria turística, não fosse o turismo um importante factor de desenvolvimento económico, detentor dum enorme potencial para promover melhorias sociais e ambientais e, através delas, contribuir para o desenvolvimento sustentável das comunidades e países receptores. O sector hoteleiro, enquanto principal componente do produto turístico, interage directamente com o meio ambiente e da sua actividade decorrem impactos negativos relevantes pelo que, a partir dos anos noventa, o sector começa a adoptar várias iniciativas voluntárias no sentido de melhorar o seu comportamento ambiental. De entre essas iniciativas, as mais comuns são os códigos de conduta, as boas práticas ambientais, as eco-etiquetas e os SGA (Sistemas de Gestão Ambiental). Com este estudo pretende-se analisar a experiência com as boas práticas ambientais nos hotéis do Algarve (Portugal) e assim avaliar da sua contribuição para o desenvolvimento turístico sustentável da região. Os principais resultados indicam que as práticas ambientais consideradas estão ainda deficitariamente implementadas, registando-se os melhores valores naquelas que se relacionam com a gestão de energia. A maioria das unidades hoteleiras inquiridas não possui sistema de gestão ambiental nem qualquer certificação ambiental, concluindo-se que o sector hoteleiro algarvio deverá apostar mais, e melhor, na implementação de acções ambientais que lhe permitam contribuir de forma mais significativa para a sustentabilidade turística da região.

Introduction

For a long time, tourism was considered a clean, non-polluting economic activity, the so called "industry without chimneys". However, as environmental concerns have grown and the concept of sustainability has developed, the negative environmental consequences of tourism (which, according to Hunter and Green (1995), tend to develop in areas characterized by the existence of different and attractive natural resources) have become more evident. Since the resources in question are not infinitely resistant, and with the growth of the tourism phenomenon, the authors warn that there is a risk of the pressure on the environment becoming so great that tourism will be condemned to unsustainability and, in the long-term, to decline. Urtasun and Gutiérrez (2006), also stress that no industrial activity, however polluting it may be, will harm itself as directly as tourism does since, in the case of the former, the negative environmental impacts will reflect fundamentally over society as a whole, whereas with tourism the environmental degradation produced constitutes an inseparable part of its own product. Further, by definition, the services must be used at the supplier's actual location since one cannot "export" a tourism service to another site, nor its negative externalities for that matter. The damage to the environment, therefore, occurs at the same site in which the tourism services are provided, thereby lowering their quality.

As stated by Cooper et al. (2007), one cannot avoid impacting the environment, but with proper planning the development of tourism can

be managed with a view to minimizing the negative impacts, and simultaneously boosting the positive ones. This requires the active participation of everyone involved, from the point of view of both demand (which requires that the environment be preserved) and supply (which depends on that preservation to survive). The hotel sector, as the main component of the tourism product, has the responsibility of controlling its impact on the environment, thereby contributing to the competitiveness of the destination which is its very lifeblood. To this end, the sector has already started to adopt different voluntary tools such as codes of conduct, good practice guides, eco-labels and Environmental Management Systems. This work aims to analyze the Algarve (the southern region of Portugal), hotel sector's conduct in respect of good environmental practices and thereby evaluate its contribution to the sustainable development of tourism in the region.

Methods

The current state-of-the-art of the methods used to evaluate environmental management in tourist accommodation depends largely upon checklists that verify the existence, or non-existence, of behaviours or equipment to minimize environmental impacts. Despite the Agenda 21 for the Travel and Tourism Industry (WTTC, 1996), identifying ten priority action areas for companies operating in the sector, the vast majority of the checklists developed focus essentially on just three, which are the ones related to water management, energy and waste. The environmental management practices considered in this work include the three abovementioned areas, but other criteria are also taken into consideration that are linked to the actual organizational structure, to the involvement of staff and to client awareness, in an effort to compile a checklist that combines the priority areas identified in the Agenda 21 with the areas more frequently analyzed in the literature (Enz and Siguaw, 1999; IHEI, 1994, Vargas et al., 2004, 2006). The evaluation of the environmental practices in question was done using an adaptation of the Lickert scale (5-score scale), wherein the answer "1" meant the absence of those practices and the answer "5" meant they were fully implemented, thus surpassing the dichotomous measurement usually used simply to verify the existence or non-existence of a certain environmental item. The use of this scale will also allow the creation of a set of indexes called Environmental Performance Indexes (EPI), which, based on the scale and taking into account the number of items comprised in each area, will allow the sector's environmental performance to be assessed. The intention, therefore, is to use this reference scale to evaluate the effectiveness of the environmental practices implemented classifying the participating hotels under the performance levels of "high", "medium", "low" or "null". The target-population of this study was defined as all the 2-, 3-, 4-, and 5-star hotels in the Algarve (Figure 1), featured in the Portugal Hotel Guide list.

In view of the finite character and fairly small dimension of the target-population (N=88), it was decided not to use the sampling method but rather to send the questionnaire to the entire population. The questionnaire used was drafted specifically for this study and the questions asked were the result of both bibliographical research and the consultation of similar studies (Álvarez et al., 2001; Benito and Benito, 2006; Carmona et al., 2004; Céspedes and Burgos, 2004; Henriques and Sadorsky, 1999), in addition to the opinion of a number of experts on the subject. The questionnaire comprised two blocks of questions, the first relating to the nature

Figure 1 – The Algarve.

of the accommodation and the second to the respective environmental practices.

The questions relating to the nature of the accommodation covered items such as the location and age of the property, number of rooms, number of permanent staff, average annual occupancy rate, nationality of the clients, the practice of benchmarking, the existence of an Environmental Management System and environmental certification.

The second block covered the environmental practices evaluated using the aforementioned Likert-style scale. The environmental practices analyzed were subdivided into the following categories:
- Minimization of Waste, Reuse and Recycling;
- Energy Conservation, Efficiency and Management;
- Water Management;
- Hazardous Substances and Waste;
- Noise and Vibrations;
- Transport;
- Organization and Human Resources;
- Client Information and Awareness;
- Involvement with the Local Community.

Following an initial contact with all 88 hotels, the questionnaires were sent out using the method preferred by each: mail, internet or personal interview. During the first phase, 37 replies were obtained, corresponding to a response rate of 42%. During the second stage, consisting of phone calls and personal contacts, a further 13 replies were obtained, giving a final sample of 50 properties, or a response rate of about 57%.

The presentation of the results (next section), is divided in two main parts, in line with the questionnaire's structure of two blocks of questions, the first relating to the nature of the accommodation and the second to its environmental practices. In addition to the overall picture obtained, tests were also carried out to verify the existence of eventual relations between variables. The tests used were Pearson's X^2 tests (qualitative explanatory and dependent variables) and t test for independent samples (qualitative explanatory variable and quantitative dependent variable). The Crámer coefficient was also computed to measure the strength of the association between nominal variables. All tests were performed for a significance level of 5%. The results are presented broken down by the different categories of explanatory variables only where the statistical tests did actually confirm the existence of a relation between them.

Results

The participating properties are mainly 4 stars (52%) and are located on the coastline (68%). Grouping the properties into two subsets by star rating (4- and 5-star and 2- and 3-star) and by their location in either the eastern or western Algarve, a statistically significant relation (Pearson's X^2=4.96; p=0.026), can be seen to exist between the variables: the 4- and 5-star properties are mainly located (71%) in the western Algarve, or "Barlavento", and the 2- and 3-star properties in the eastern Algarve, or "Sotavento" (63%). Similarly, an association (Pearson's X^2=16.82; p=0.000), between these categories and their geographical location (coastline/urban centre) was also detected: the 4- and 5-star properties are mainly located on the coastline (88%), and the 2- and 3-star properties in urban centres (69%). The following relation (Pearson's X^2=6.35; p=0.012) therefore, comes as no surprise: the properties located on the coastline are to be found mainly in the Barlavento (71%) and the majority of the urban ones (67%), in the Sotavento.

The average age of the participating properties is around 18 years, with the 3- and 4- star ones being older (averaging, respectively, 21 and 20 years) and the 5-star ones being more recent, with an average age of 14 years.

The number of rooms varied according to the property's star rating. However, the average number of rooms per property was 163, and the 4- and 5-star properties were larger.

The main nationalities of the clients are, in decreasing order of relevance, British, Portuguese, German, Spanish and Dutch. Viewing the three more frequent nationalities (of those indicated as the 1st main market), it can be seen that there is a statistically significant relation (Pearson's X^2=7.39; p=0.025), between these and the location of the

properties: the British and German tourists are to be found in greater numbers in the Barlavento and the Portuguese in the Sotavento.

The majority (52%) of the questionnaires were filled out by members of the board of directors (e.g. the General Director, Marketing Director or Assistant Director). Only 10% of the questionnaires were filled out by the person responsible for environmental matters, and this happened only in the 4- and 5-star hotels.

Where the question of benchmarking is concerned, the majority of the participants (53%) answered that they do not undertake this practice and most were seen to be unaware of this reality. A statistically significant relation (Pearson's X^2=4.59; p=0.032), between this variable and the star rating of the property can also be seen: of the 41 that said they practised benchmarking, about 83% are superior category properties (4- and 5-stars).

With regard to the Environmental Management System, the majority of the respondents (66%) answered that this had not been implemented in their property, while environmental certification under ISO 14001 was seen to exist in only 6 properties (three 4-star and three 5-star). A large number of respondents (37) chose the "not applicable" option in reply to this question, which shows a lack of knowledge on the subject.

As previously mentioned, a 5-point Likert-style scale was used to evaluate the implementation level of the environmental practices and the Cronbach's Alpha coefficient was used to evaluate its internal consistency. A result of 0.94 confirmed the consistency of the scale.

In light of the overall average (3.17) for the totality of the practices in question, one can distinguish some areas where they are more fully implemented and others where they are still in their beginning, as we can see in table 1.

Of the variables tested (t test for independent samples), as explanatory for the differences between the average values returned for the various environmental practices, the only ones where there are statistically significant values (t test significance values < 0.05), are the category of the accommodation, the practice of benchmarking and the existence of an Environmental Management System (EMS).

Category of the Accommodation: there are 21 environmental practices that present statistically significant differences, in their average values, between the categories (2-3 star and 4-5 star). In 19,

Table 1 - Average levels of implementation in environmental areas.

Areas less implemented	Areas more implemented
▼ Organization and Human Resources ($\overline{X}_G = 2.63$)	▲ Energy Conservation, Efficiency and Management ($\overline{X}_B = 3.49$)
▼ Involvement with the Local Community ($\overline{X}_I = 3.00$)	▲ Transport ($\overline{X}_F = 3.45$)
▼ Client Information and Awareness ($\overline{X}_H = 3.02$)	▲ Noise and Vibrations ($\overline{X}_E = 3.41$)
▼ Water Management ($\overline{X}_C = 3.09$)	▲ Hazardous Substances and Waste ($\overline{X}_D = 3.22$)
	▲ Minimization of Waste, Reuse and Recycling ($\overline{X}_A = 3.19$)

the participating higher category hotels (4-5 star), stand out for the better in relation to the lower category hotels (2-3 star). The exceptions are the existence of sufficient solar panels to heat the water and the dissemination of information relating to access by public transport, aspects where the lower category hotels take the upper hand.

Practice of Benchmarking: the hotels differ in fewer environmental practices (13), and these are mostly related to the practices of conservation, efficiency and energy management. As expect, the hotels that use benchmarking are the ones that present higher average values in all of the 13 environmental practices with significant differences.

Environmental Management System (EMS): it is undoubtedly the most transversal variable across all the areas studied, being responsible for 43 detected significant differences and covering every environmental area considered in the questionnaire. It stands out in relation to the two previous explanatory variables (category of the accommodation and practice of benchmarking), mainly where waste reduction and organization and human resources are concerned, areas in which little or no difference is noted with respect to either benchmarking or hotel category.

In order to create the aforementioned environmental performance indexes (EPI), and since the individualized analysis of the various environmental practices does not provide us an overall score in respect of the hotels' environmental performance, the scale will not be analyzed item by item but as a whole, thus providing us with a score for each property, and allowing us to obtain an index showing the standards of environmental performance achieved, and to grade the hotels accordingly. Taking into account all 109 environmental practices, the EPI can thus return ratings of between 109 and 545, which allows us to define the classifications listed in table 2.

This index of global performance shows a positive, albeit not particularly significant, association with the hotel's star rating (Crámer coef.=0.36, p=0.019), and the existence of an EMS (Crámer Coef.=0.56, p=0.002) and certification (Crámer Coef. =0.47, p=0.014):

Of the 26 hotels whose performance was rated medium-high, 19 (73%), are in the 4- and 5-star category, 15 (58%), have an EMS, and 6 (23%) are certified;

Of the 24 hotels whose performance was rated low or nil, 17 (71%) are in the 2- and 3- star category, only two have an EMS and none has certification.

Besides this global index, specific performance indexes for each one of the environmental areas considered in this work were also calculated, the vast majority of which reveal higher associated values in relation to the existence of an EMS. This is the case of the values related to the environmental areas "Organization and Human Resources" (Crámer coef.=0.76, p<0.001), "Water Management", "(Crámer coef.=0.50, p=0.002), "Involvement with the Local Community" (Crámer coef.=0.46, p=0.006), and "Client Information and Awareness" (Crámer coef.=0.45, p=0.018).

The performance index for the area "Conservation, efficiency and energy management" reveals an association with the practice of benchmarking (Crámer coef.=0.44, p=0.023), the one concerning the area "Noise and Vibrations" with the hotel category (Crámer coef.=0.45, p<0.001),

Table 2: Environmental performance indexes.

Environmental Performance Index Global		Sample Results	
$437 < EPI^{Glob.} < 545$	High performance	2	4%
$328 < EPI^{Glob.} < 436$	Medium performance	24	48%
$219 < EPI^{Glob.} < 327$	Low performance	21	42%
$109 < EPI^{Glob.} < 218$	Null performance	3	6%

and the indexes for the areas "Waste Minimization, Reuse and Recycling" and "Hazardous Substances and Waste" are associated with the existence of an EMS (respectively: Crámer coef.=0.56/0.42, p=0.002/0.003).

Discussion

From the results presented, the consensus of opinion would be that the environmental practices of the hotel sector studied are still far from ideal: the overwhelming majority of the environmental practices considered are still poorly implemented; the use of techniques that could contribute to a better environmental performance, such as benchmarking, is still limited and essentially geared towards energy-saving measures; properties with Environmental Management Systems are clearly a minority and their most noticeable positive effects are concentrated on the management of waste and hazardous substances; and as far as certification is concerned, it is an attribute that is limited to a mere handful of visionaries.

The overall average for the totality of the environmental practices in question was 3.17 (on a scale of 1 to 5) showing that, generally speaking, the adoption of environmental practices by the sector is still not a significant reality. The evaluation of the practices that were above this average clearly shows that they are directly related to questions of a legal nature (eg HACCP), whereas those whose scope is directly related to social matters are less implemented, perhaps because they are not targeted by specific inspections and depend only upon the basic guidelines that are incorporated in the management and operation of the properties. Also of note is the fact that little attention is as yet paid to the area of "Water Management", which is somewhat surprising when one considers that water, like electricity, is one of the largest overheads for any hotel, reaching levels that can be as high as 15% of the running costs.

The superior quality hotels (4 and 5 stars) are noticeably more aware of environmental practices, whether because of the expected quality of their services, or because their clients are becoming increasingly demanding in this respect. Furthermore, the hotels of this category that participated in the study are located mainly in the Barlavento, where the German market, known for being especially demanding on environmental matters, is one of the most important. The location of the properties in question (88% on the coastline), is probably also highly influential on the adoption of these practices, because the environmental legislation is more demanding for establishments located on the coastline. For these same reasons, it is hardly surprising that the hotels of this category are precisely the ones to invest more in the implementation of Environmental Management Systems (of the 17 respondents who have one, 13 are of superior quality) and where the relevant certification is concerned all 6 certified hotels fall into this category. Although no statistically significant relation between these two variables (EMS and Certification) and the hotel category was detected, the latter was seen to be associated with the overall level of performance, and it comes as no surprise that the superior category hotels returned better results in this indicator: of the 26 properties classified as medium to high, 73% are 4- and 5-star.

In turn, a connection was seen to exist between the global performance level and the EMS and Certification variables, with 15 out of the 26 medium-high level hotels, having an EMS and 6 having environmental certification, whereas only 2 of the 24 hotels with low or nil development had an EMS and none was certified.

As far as the index of global performance demonstrated by the participating properties is concerned, the classification obtained, while not dramatic, is also not brilliant: the participating hotels are situated almost equally between the levels of low (42%) and medium (48%), with only 4% classified as high level. From a strictly arithmetical perspective, this could be considered an average result, but in the context of sustainability, and targeting the goals of the Agenda 21, it is clearly poor, indicating that the sector must invest more, and more effectively, on the implementation of environmental actions that will allow it to contribute in a more significant way to tourism sustainability in the region.

For each one of the environmental areas, the

majority of the specific performance indexes reveal higher association with the existence of an EMS. This is the case of the indexes concerning the areas "Organization and Human Resources", "Water Management", "Involvement with the Local Community" and "Client Information and Awareness". The fact that these are precisely the areas which are less implemented in the participating hotels would seem to suggest that the way to improve environmental performance in the hotel sector, in respect of these areas and consequently at an overall level, would be the appropriate implementation of Environmental Management Systems.

Similarly, the environmental areas where the participating properties show better results are those where the performance indexes do not show any statistically significant relation to the existence of an EMS. The better results returned in these areas, regardless of a system being in place or not, may possibly be explained by the following:

"Conservation, efficiency and energy management" is the environmental area seen to be most widely implemented, perhaps because it is the one that results in a more immediate and visible reduction in costs. This would also explain the fact that this is the only performance indicator where a relation with the practice of benchmarking is detected, suggesting that whether or not an EMS is in place, hoteliers are actually concerned with energy management practices;

There is no relation between "Transport" and the EMS variable or any other, possibly because almost all the practices included here can be considered as requiring little management and being easy to apply, and therefore independent of the existence of an EMS;

Where "Noise and Vibrations" is concerned, the only relation is to the hotel category, which may be explained by the fact that a large part of the practices encompassed in this area are more strongly connected to the options taken in respect of the actual building process, and the budget to address this issue will probably be higher in the case of the superior category hotels.

Obviously, this does not mean that the existence of an EMS does not contribute to better management in these last areas, which, in fact, despite returning the best results in our sample, are a long way from positioning themselves mainly on levels of high development.

Apart from the typology described above, we also have the areas, "A – Waste Minimization, Reuse and Recycling" and "D – Hazardous Substances and Waste", which can also be included in the group of those returning the best results. At the same time, their levels of development reveal some connection to the existence of Environmental Management Systems, suggesting that the systems implemented are contributing to the achievement of higher development levels, especially in respect of the management of hazardous waste and substances.

Knowing that an environmental management system is a global system that encompasses all the environmental areas studied, this result may be seen as somewhat surprising and raises the following question: do our participants know – and let us not forget that in only 10% of the cases our questionnaire was completed by the person in charge of environmental matters – what an Environmental Management System is, or do they consider it to be nothing more than the management of waste and hazardous substances? This question opens the door to the possibility of future research into the way in which the Algarve's hotel entrepreneurs perceive Environmental Management Systems, and which might include, for example, a study on these entrepreneurs' perception of sustainable tourism.

Apart from its enormous importance to the economy of a number of countries and regions, including Portugal and the Algarve in particular, the tourist industry involves a special relation between consumers (the tourists), local communities and the environment, so the possibility exists for it to make a valuable contribution towards a more sustainable development. To this end, one of options at its disposal is to focus on the environmental quality of the tourist product or service. And here the hotel sector has a preponderant role since its activity causes important negative impacts on its natural setting, upon which, in the last analysis, it depends. In this context, it is indispensable that businesses operating in the hotel industry take a series of environmental practices into consideration

that will allow them to control and minimize these impacts.

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