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dintre performanțele de securitate
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Environmental Management: Assessment of Macedonian Hotel Industry

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Abstract

Tourism is heavily affected by and contributes to negative impacts on the environment. Despite the effort of the accommodation sector to introduce many practices that enable environmental protection, it is still a profound factor that contributes to environmental footprint of tourism. The paper investigates the application of the environmental management by elaborating the case of Macedonian hotels. It explores to what extent hotels meet the energy efficiency practices in terms of the current level of involvement. Data were collected by an online survey among managers and department supervisors. Moreover, the study assesses the attitudes and willingness of hotel managers concerning application of energy efficiency and environmental protection concepts and practices. It is found that large number of hotels does not apply policies on general environmental issues. Hotel management is lacking interest in the energy efficiency blaming the high operational costs and restricted financial funds for application of renewable energy sources. The paper recommends valuable findings for developing and exerting wide range of environmental initiatives. At the same time, it poses new challenges for hotel establishments, which may become increasingly environmentally responsible by implementing sustainable management programs. By having environmental pro-activeness, hotel management may boost development of sustainable hotel industry, and tourism in general.

Keywords: environmental management programs, energy efficiency, renewable energy, hotel industry, tourism.

1. Introduction

Despite numerous benefits that tourism has, it is an industry heavily affected by and contributes to negative impacts on the environment. Generally, tourism accounts for about 5% of greenhouse gasses (GHG) emissions worldwide, out of which the largest proportion of 75% is associated with transportation, whereas 40% is caused by the air traffic (GIZ, 2014: 74). Another factor that contributes to environmental footprint of tourism is accommodation. Even though this sector introduces many practices that enable environmental protection by reducing carbon dioxide and other harmful emissions that provoke global-warming and climate changes, still it represents approximately 20% of GHG emissions, with a prediction to grow 161% by 2035 (UNWTO-UNEP-WMO, 2008: 36). The way out is detected in introducing renewable energy sources (RES) which leave the least pressure on the environment. In 2015, the renewable energy share was 15.9% of the European energy mix, which is twice as much as it was in 2004 and almost a percentage point more than it was in 2014 (Observ'ER, 2015: 8).

While the EU countries are largely investing to increase the RES share, Macedonia is facing immense problems. Almost 90% of the primary energy in Macedonia is produced from fossil fuels, and the energy sector contributes with over 70% in total emission of GHG. Based upon the State of Environment report (EEA, 2015), the total emissions by sectors in Macedonia are due to combustion processes (60%), transport (30-40%), and other (less than 5%). Within the latest Strategy for Energy Development, it is foreseen to increase competitiveness in the wider regional energy market and to become high energy

efficient (MANU, 2015: 1). Even more, it is foreseen until 2020 to improve the energy efficiency by 20%, provision of energy from RES to be 20% of the final energy consumption, and at least a 10% share of RES in the final energy consumption in traffic (MoE, 2010a:21). In this line, the maximization of the utilization of the RES is noted to be among the strategic priorities, which is proved by the constant increase from 4.2% in 2012 (UNDP, 2012) to 13.8% in 2015 in the final energy consumption. Moreover, based on many scenarios within the strategic documents, it is indicated that Macedonia can target a share of RES set at 21% (MoE, 2010b).

On the other hand, today's tourists became fully aware for the negative tourism impacts on the environment. So, they trace for accommodation that hold ecolabel or energy efficiency certificate. That urged hotel managers to apply environmental protection programs for reducing energy consumption, recycling and composting food scraps (Bruns, 2000; Dodd et al., 2001; Bowe, 2005; Chen et al., 2005; Lu et al., 2012; Radwan et al., 2012; Xin et al., 2012; Kallbekken & Saelen, 2013; Pirani & Arafat, 2014). Moreover, hotel managers were forced to rearrange priorities and to make the establishments green, due to the fact that environmentally-conscious and adequately informed tourists are more willing to pay than others (Han & Kim, 2010) and rather consume green products and stay at green hotels (D'souza & Taghian, 2005; Chen & Tung, 2014). The benefits of environmental practices are particularly emphasized in terms of increased financial performance and cost savings (Gil et al., 2001; Dodds & Holmes, 2011; Geerts, 2014; Nicholls & Kang, 2012; Rahman et al., 2012).

Although this study may add to the current research on

environmental protection and hotel industry in Macedonia (Petrevska & Cingoski, 2015a,b; 2016a and 2017; Petrevska et al., 2016b), its main contribution lies in the intention to provide insights into the processes of application of environmental management programs. The main aim is to explore the current situation in hotels in Macedonia when addressing the attitudes, willingness and practices concerning applying sustainable environmental practices. Moreover, the research assesses how Macedonian hospitality industry stakeholders manage the environmental quality as a base for creating sustainable tourism. This paper seems beyond the empirical evidence suggested for Macedonia since it poses valuable findings to hotel management in the line of preserving the attractiveness of tourist destinations by introducing, a wholesomely sustainable approach, particularly with regards to the energy use.

The work is organized in the following way: after the introductory section, the next presents the research methodology. Section three provides the main findings and discussion, while the final section contains main conclusions drawn from this work along with recommendations.

2. Research design

The study mainly took the quantitative approach, simultaneously being fully supported with qualitative interpretation on obtained results. Data were collected from an online questionnaire designed for hotel managers and department supervisors during May-June 2015. The sampling consisted of 67 three-star hotels, 44 four-star hotels and 16 five-star hotels, or a total of 127 hotels. The response rate was 35.4% based on the replies from 16 three-star hotels, 19 four-star hotels and 10 five-star hotels.

Besides the section with general data on hotel establishments consisted of items on category, working history etc., the questionnaire encompassed two major sections: (i) Environmental management (consisted of eight yes/no questions); and (ii) Benefits and constraints (consisted of ten questions whereas a five-point Likert scale was applied).

The interpretation of indicators for benefits and constraints for applying environmental management practices is made by establishing medians in the components scores. So, in the line of quantifying item impact, the following scheme was applied: 1.00-1.80 (very low); 1.81-2.60 (low); 2.61-3.40 (medium); 3.41-4.20 (strong); and 4.21-5.00 (very strong). Furthermore, the statistical evaluation of obtained data was performed by the software package SPSS. In terms of multivariate data analysis method, a Categorical Principal Component Analysis (CATPCA) technique was used, while the reliability of the components was checked by the Cronbach Alpha. The scores of perception components were compared by Kruskal-Wallis tests.

3. Findings and discussion

Table 1 presents the summarized findings on general environmental management issues. It is noticeable that five-star hotels have by far the most positive environmental concerns due to possession of a certificate for energy efficiency. This is also the case with the four star-hotels, but not with the lower ranked hotels. The same conclusion stands for the item addressing preparation of written plans for environmental protection, whereas surprisingly half of the managers of three-star hotels claim to prepare it. Yet, none manager prepare reports on environmental protection. This is not in favor of supporting the European environmental impact assessment regulation, which has started to develop in the early 1970s, whereas tourism is introduced as a segment, which must conform to the Fifth Environmental Action Program. Due to the fact that Macedonia is a candidate country for an EU membership, much attention must be put in order to meet the internationally set standards.

Table 1. Summarized findings on general environmental issues (%)

Item	3* Hotels		4* Hotels		5* Hotels	
	Yes	No	Yes	No	Yes	No
Certificate for energy efficiency	37.5	62.5	52.6	47.4	80.0	20.0
Plan for environmental protection	53.3	46.7	73.7	26.3	80.0	20.0
Reports on environmental protection	26.7	73.3	31.6	68.4	40.0	60.0
Eco label	20.0	80.0	47.4	52.6	50.0	50.0
Eco certificate	20.0	80.0	26.3	73.7	60.0	40.0
Employee responsible for environmental protection	31.3	68.8	47.4	52.6	70.0	30.0
Award for environmental protection	/	100.0	/	100.0	11.0	89.0
Availability of info for guests	68.8	31.3	68.4	31.6	60.0	40.0

The vast majority of three and four-star hotels neither have Eco label nor Eco certificate. Even more, they do not have personnel responsible for environmental protection. On the other side, findings are completely different from the five-star hotels' point of view, where half surveyed managers stated to have it. Although in favor (70% claimed to have it), there is a certain risk in the interpretation and understanding the question related to the term 'personnel for environmental protection' which might be understood as a 'personnel in charge for cleaning the environment', which in most cases is a job of the housekeeping staff.

Despite the fact that majority of the surveyed hotels possess certain written document related to environmental concern, yet, it may reflect only the appearance of social and corporate responsibility of hoteliers. The fact that none of the surveyed managers of three and four-star hotels claimed that have ever received an award related to the environmental protection, implies that still much needs to be done. However, the positive impulse is detected in providing info to guests related to environment protection, which may be interpreted rather as corporate social responsibility than a sign of energy efficiency practices.

Table 2 reports the most important summarized results from the overall calculations on environmental management and perception. Herein, only those loadings exceeding 0.5 representing the correlations between the items and components are reported in *Table 2*. The last column reports the most frequent response to each attitude statement. The findings suggest that in general, hotel managers have positive attitude towards energy efficiency practices. The CATPCA indicates that the components accounting for 68.7% of total variance and the Cronbach Alpha coefficients, are above 0.6 pointing out to acceptable reliability of each component.

The first component in *Table 2* referred as Environmental management, addresses indicators for interventions and knowledge on environmental policy. It was found that hotel managers perceive the employees' training as the most important indicator since employees are ideally positioned not only to identify drafts, leaks, unnecessary lightening and other signs of the energy waste, but to provide energy efficiency advice as well. Yet, this determinant is assessed with medium influence on hotel's business, so hoteliers provide limited staff environmental training. This is very disappointing when having in mind that staff training and awareness may cut hotels energy costs in addition to other energy efficiency measures. In the same line is the finding for the prevention interventions as a factor with medium influence. Furthermore, hotel management claims to have low knowledge of the environmental protection standard ISO 14000, which points to limited environmental awareness and concern. The most surprising element is the final item in this component. It addresses hotels' surrounding pollution resulting as factor with low influence on the hotels'

business. The surveyed hotels stated to have extremely small amount of environmental pollution in the surroundings, so this factor has low impacts when assessing the extent of activities related to environmental management.

Table 2. Summarized key results

Component	Sub-component	Item	Loading	Mode*
I. Environmental management (Alpha = 0.71)	Environmental policy			
		I ₁ Employees training	0.724	3
		I ₂ Prevention interventions	0.608	3
		I ₃ ISO 14000	0.554	2
		I ₄ Hotel's surrounding pollution	0.501	2
II. Perception (Alpha = 0.82)	Benefits			
		I ₁ Environmental protection	0.722	4
		I ₂ Reduced operational costs	0.712	4
		I ₃ Improved image	0.679	4
		I ₄ Enhanced competitiveness	0.474	3
		I ₅ More guests	0.392	3
	Constraints			
		I ₆ Lack of subsidies	0.757	4
		I ₇ Technical limits	0.726	4
		I ₈ Cost increase	0.601	4
		I ₉ Not informed	0.521	3
		I ₁₀ Not interested	0.521	3

Note: *Mode (level of influence) 2=low; 3=medium; 4=strong.

The second component in Table 2, referred as Perception, gathered findings for measuring managerial assessment on benefits and constraints if applying environmental management practices. These data actually present the second section of the questionnaire, being visually presented as quantified impact in terms of factor of influence in Figure 1.

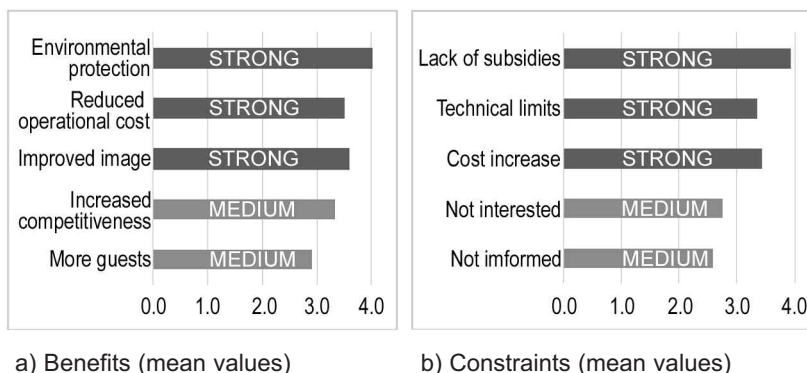


Figure 1. Managerial perception on benefits and constraints when applying environmental management in Macedonian hotels

The first subcomponent (Figure 1a) identifies the benefits as the most intensive factor with strong impacts on hotels' business. More precisely, the managers perceive the items which refer to environmental protection, reduced operational costs, and improved image, as strong determinants. So, the surveyed hotels assessed the above items as of better interest than increased competitiveness and more guests.

The second sub-component (Figure 1b) refers to the

perception component and identifies the main constrains by their power of limits. Lack of subsidies by the local and central government, along with the cost increase and the technical limitations of hotels, are identified as the factors with strong influence. The other surveyed indicators related to the lack of interest and information are perceived as medium influencing factors for hotels' business.

4. Conclusion and recommendations

The study presented some insights into the application of environmental management by determining indicators for perception of activities associated with energy efficiency practices, as well as benefits and constraints if applying it. It explored the extent how three, four and five-star hotels in Macedonia meet the environmental policy in terms of the current level of involvement. It was found that Macedonian hotel management possesses relatively low level of environmental quality, mainly due to the gap between the environmental awareness and the daily practice of hotels. Although being fully aware of the importance of environmental management, due to the lack of interest and information, it is not managerial priority of Macedonian hoteliers.

The summarized results confirmed that generally hotels are driven by increasing the number of tourists regardless the environmental concerns and with little or no environmentally friendly practices. The transformation from awareness into practice is constrained by high costs for applying environmental management and positive practices. It is logical that hotels will apply the concept of environmental management only if it minimizes the operating expenditures. It was also found that hotels may benefit from environmental pro-activeness which is important for hotels' performance and tourism development.

Based on the survey findings, the study recommends that managers should focus on shifting their professional ethics, developing and exerting a wide range of energy efficient practices, which will result in reduction of energy consumption. Consequently, hotels may benefit from energy conservation measures not only by saving money, but also in ensuring comfort to guests and staff. In this line, sustainability management tools such as environmental reporting and communicating may assist in managing sustainability issues. This is particularly effective if hotel managers prepare Energy Management Plans as tools that assist them in initiating, monitoring and tracking energy savings. By implementing these kinds of green initiatives and activities that are generally focused on measuring the results, hotels may save a considerable amount of money by cutting operating costs.

It is evident that hotel management must implement a new approach that will address technological, behavioral and organizational change. Herein, hotel establishments may introduce and upgrade technologies that are constantly improving and becoming more efficient. Furthermore, they may set up policies, procedures and practices that can assist in driving down the utility costs.

Even though the paper contributes to the current literature on environmental management in hotel industry, several issues arise which might be addressed in some future work. The presented data are reliable, but it is difficult to assess to what extent represent the overall hotel industry in Macedonia. Therefore the study may be enhanced by addressing new aspects that clarify the concept of application of environmental management in hotels in more in-depth manner.

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