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ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY CONCEPT IN FIVE STAR HOTELS IN MACEDONIA

Biljana Petrevska[1], Vlatko Cingoski[2]
[1]Faculty of Tourism and Business Logistics, "Goce Delcev" University - Stip, Macedonia
[2]Faculty of Electrical Engineering, "Goce Delcev" University - Stip, Macedonia

Abstract. The paper assesses the application of the concept of environmental protection and energy efficiency in hotel industry, by elaborating the case of Macedonia. It investigates the extent of environmental protection practices in terms of current level of involvement. For that purpose, the research was consisted of an online survey conducted among managers of five star hotels. The results point that large number of hotels lack policies and practices related to environmental protection and energy efficiency. Finally, the paper allows increased understanding of the way hotel industry in Macedonia operates when referring environmental protection issue, and identifies challenges the hotels are faced with in their attempt to decrease operating costs towards energy efficiency. At the same time, the research poses new challenges that urgently need to be brought to hotel management and tourism development planning.
Key words: Environmental protection; Energy efficiency; Five star hotels; Macedonia.

1. INTRODUCTION

Hotels are one of the most energy intensive facilities with correspondingly high energy costs. They are ranked among top five in terms of energy consumption in the tertiary building sector (minor only to food services and sales, health care and certain types of offices) (Hotel Energy Solutions, 2011). So, there is an inevitable relationship between hotel industry development and environmental and energy efficiency impacts. The main intention of the management is to focus its activities in the line of reducing operating costs by introducing new sources of energy that a priory preserves the environment by creating an eco-friendly establishment. Due to the fact that clean and well preserved environment is one of the main preconditions for high quality service generally in the hospitality-oriented facility, one may conclude the dependent nature of the hotel development.

This study is designed to provide information on the nature and the extent how the hotel industry meets the environmental and energy efficiency issues, due to fact that this is relatively unexplored topic in Macedonia. The research topics are: (i) to determine the extent of environmental protection practices in the hotels in Macedonia; (ii) to assess the current level of the involvement of Macedonian hotels in applying environmental protection practices; and (iii) to pose valuable findings to hotel management for cutting the operational costs based on saving energy.

In order to meet the three-fold objectives, the paper covers several sections. After the introductory part, Section 2 provides a brief overview on literature addressing environmental performance and benefits for hotel industry. Section 3 encompasses the methodology and research framework. Section 4 presents the main analysis, discussion and findings, while the future challenges and recommendations are noted in the last section. Generally, the contribution of this paper lies in the fact that it enriches poorly developed academician work in Macedonia addressing this issue.

2. LITERATURE REVIEW

There is a large body of literature arguing the necessity of always having in mind the environments, thus introducing environmental protection programs in hotel activities in terms of reducing energy consumption, recycling, composting food scraps etc. (Bowe, 2005; Bruns, 2000; Chen, Legrand, & Sloan, 2005; Dodd, Hoover, & Revilla, 2001; Karagiorgas et al, 2006). Furthermore, many academics note that hotels have noticed the benefits from improving environmental performance generally by reducing the operational costs (Forbes, 2001; Kirk, 1998) and sustaining competitive advantage, increased demand for eco-friendly hotels etc. (Bohdanowicz, 2005a, b; Le et al., 2006; Vazques, Santos, & Alvarez, 2001).

Additionally, various regulations serve as primary instruments of action for hotels in the line of fulfilling obligatory regulations for health and safety, environmental taxes, building standards etc. This leads to necessity of developing industry benchmarking (Kozak, 2004; Pyo, 2001; Wöber, 2001).

3. METHODOLOGY

The study took qualitative and quantitative methods. The qualitative approach included literature review on main publications of interest addressing application of environmental protection programs and hotel energy efficiency in other countries. Furthermore, a number of publications of interest were carefully followed, along with websites for updates on environmental initiatives.

The quantitative approach covered data obtained from an online survey. The data were collected via questionnaires administered to managers of five star hotels in Macedonia. To determine the sampling frame, a list of five star hotels was provided by the Sector of Tourism within the Ministry of Economy. Based on the list, a total of 16 five star hotels were identified. According to the bylaw on categorization of hotels in Macedonia, a five star hotel should have more than 20 rooms and at least 570 points obtained from minimum fulfillment of 120 criteria. These criteria encompass three main sections referring rooms (cleanness, public spots, parking etc.), furniture (sanitary comfort, sleeping comfort, equipment, entertainment, telecommunication etc.), services (room service, drinks and beverage, reception, additional services etc.), and free activities (additional equipment, spa and wellness facilities, animation, child care etc.). Yet, no criteria related to environmental protection activities are noted.

The questions were structured in four interrelated parts: Environmental policy, Environmental protection, Resources and Perception indicators. The questionnaire was consisted of two types of questions, whereas for the first section covering issues on Environmental two-choice questions were applied, while for other three sections a 5-point Likert scale (1=very low, 2=low, 3=medium, 4=strong, 5=very strong). The following scheme was applied when interpreting the mean range of results in the line of quantifying the factors impact: 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).

No pilot study was performed due to financial constraints. The survey was conducted during May-June 2015 with a follow-up reminder to each non-respondent approximately each week. The response rate was 62.5% which is relatively high and untypical for online survey when usually the response rate is between 16-25% due to lack of personal contact and less binding (Bohdanowicz, 2005b; Jeong et al, 2003; Medina-Munoz & Garciá-Falcón, 2000). The statistical evaluation of obtained data was performed by SPSS program. Kayser-Meyer-Olkin measure (Kayser, 1974) and Bartlett's test (Bartlett, 1954) were applied.

4. FINDINGS AND DISCUSSION

The study found that generally, the surveyed five star hotels have almost the same attitudes toward questions although they differ in terms of working history, from relatively young hotels existing up to 5 years on tourism market, to well positioned hotels with over 15 years of working experience. It is hard to determine precise number of employees in the surveyed hotels since some of them have up to 50 employees, but some have even more than 100 employees. So, we have generalized the responses towards application of environmental protection activities and energy saving concept.

The reliability of the survey instrument is satisfactory since the Cronbach's α is relatively high (0.7759). The Kayser-Meyer-Olkin measure of sampling adequacy is 0.675 and the Bartlett's test of Sphericity is significant at 0.000. Table 1 poses summarized results from the survey addressing the sections Environmental protection, Resources and Perception. The results from the questions covering the section on Environment policy are interpreted in only descriptive manner. Namely, it is found that 70-80% of surveyed hotels hold a Certificate for energy efficiency, prepare written plans for environmental protection and have an employee responsible for activities related to environmental protection. Although this is in favor of supporting the European environmental impact assessment regulation yet, there is a certain risk in the interpretation of these findings. Namely, the possession of such documents may reflect only the appearance of social responsibility of the hoteliers and still to have doubts in the environmental protection concept. In this line is the understanding for the questions 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. Half respondents stated to have Eco certificate, Eco label, prepare reports on environmental protection and provide info to guests related to environment protection. Despite the high level of existence of environmental concern and policy, yet only one of the surveyed hotels have received an award related to environmental protection. This strongly supports the general finding concerning environmental policy in Macedonia that still needs to be done.

The questions related to Environmental protection actually addressed the indicators for interventions and knowledge. It was found that five star hotels do not have any interest in environmental education by providing extremely limited or no staff environmental training at all, thus this has low impact. Half managers stated to have considerable amount of environmental pollution around the hotel,

but they performed many interventions to prevent it. So, this is the only factor that had strong influence when assessing the extent of activities related to environmental protection. On the other hand, the hotel managers reported to have adequate knowledge on ISO 14000 (environmental protection standard) resulting with medium impact. Consequently, we found this group of question completely congruent with previously interpreted results where it was found limited environmental awareness and concern.

Third section of questions addressed resources in the line of assessing the nature of energy use and resource conservation. Due to fact that the use of energy is a cost factor, it was expected that hotels takes measures to reduce and replace it with renewable sources of energy. The findings are alarming since they point to extremely limited use of geothermal energy, biofuel and photocell lighting. Moreover, the treatment of the waste water and 'smart rooms' have no meaning in terms of energy efficiency. The energy saving light bulbs were found as a resource with medium impact, along with the minimal usage of solar energy and the dimming system. On the other hand, hotels pay large attention to use energy saving systems that control every appliance in the room and key-card control system that provides no power unless the room key is inserted. This is being assessed as strong factor. Guest demands for linen and towel changes are seriously taken into consideration being assessed as very strong factor of influence along with central cooling/heating system.

The summarized results (Table 1) confirm the findings as in Cunningham (2005), Erdogan & Baris (2007), Mbaiwa (2003) as well as Trung and Kumar (2005) that although being aware of importance of the environmental protection, yet its stewardship is not a top priority. This is most probably because Macedonian hotels are driven by increasing the number of tourists regardless the environmental concerns and with little or no environmentally friendly practices. Consequently, the five star hoteliers in Macedonia are less concerned about environmental protection per se, except for economic and legal interest. Macedonia faced many economic and socio-political problems after its independence in 1991, so environmental issues have only just recently come to attention. This is completely opposite to other countries, like the Scandinavian where environmental protection is of high quality and importance and has long received political and financial support at local and national level.

The presented findings in Table 1 indicate that increase of costs is the most powerful limiting factor for applying the concept of energy efficiency, while the lack of subsidies has the lowest impact. Although the sample was consisted of five star hotels which should have advanced knowledge in different fields, yet the hotel management is not well informed about the energy efficiency concept, thus evaluating it as an indicator with medium impact. In this line, the respondents have intermediate interest in this concept, and the technical limitations of hotel facility are perceived as a factor with medium influence.

Table 1. Summary of findings

Type of indicator	Mean	Std.
ENVIRONMENTAL PROTECTION		
Employees training	2.40	2.826
Hotel's surrounding pollution	2.80	3.912
Prevention interventions	**3.33**	4.183
ISO 14000	2.80	2.966
RESOURCES		
Solar	2.90	5.357
Geothermal	1.33	0.577
Biofuel	1.22	1.826
Photocell lighting	1.22	3.536
Use of treated water	1.40	2.082
Energy saving light bulbs	2.90	7.274
Smart rooms	1.60	2.630
Dimming system	2.90	4.919
Key-card control	**4.10**	10.145
Demand for linen and towel changes	**4.90**	28.991
Central control cooling/heating	**4.50**	17.578
PERCEPTION (limiting factors)		
Not informed	2.80	2.236
Not interested	2.80	2.881
Costs increase	**3.40**	3.416
Technical limits	2.89	2.380
Lack of subsidies	2.67	3.266

5. CONCLUSION, RECOMMENDATIONS AND FUTURE WORK

Hotels consume substantial quantity of energy, water and other non-durable products, thus provoking substantial environmental impacts. On the other hand, they rely on clean nature and unpolluted environment as a core value for hotel industry. Tourists more often abandon tourism destinations in poor environmental condition and trace for hotels with eco label, eco certificate and certificate for energy efficiency. Consequently, hotel industry is becoming increasingly environmentally responsible by taking care of energy efficiency.

The study found that Macedonian five star hotels are aware of the negative influences on the natural surrounding that arise due to their specific function. They are also aware that hotels may benefit from environmental pro-activeness, which is important for the performance and development of tourism. Yet, their top managements are lacking interest in the energy efficiency concept blaming the increased costs for its successful implementation. This implies that environmental concerns and the willingness to act are strongly dependent on the hotel manager's knowledge. Furthermore, the restricted financial resources and high operation costs due to low and limited application of renewable resources, generally

reduces the hotels to be more active in environmental issues.

Based on surveys findings, the paper recommends that managers of the five star hotels in Macedonia should be focused on shifting professional ethics, developing and exerting wide range of environmental protection programs and activities in the first line by introducing renewable sources of energy which will result in reducing energy consumption. Finally, the paper urges need for applying environmental protection as well as the energy efficient concept and more frequent penalizing of environmentally unsound concepts practiced in hotels in Macedonia. Instead of being focused on quick economic benefits, the five star hotels should induce more pro-environmental attitudes among managers.

During the research, several limitations occurred which might be addressed in some future work. Namely, although the presented data is reliable, it is difficult to establish to what extent it is representative of the overall hotel industry in Macedonia. Therefore the study may be enhanced by extending the sample by including four and three star hotels in Macedonia, as well as to spread the target location within other countries. On the other hand, it must be taken into consideration that the goal of the study was to identify indicators that can be overcome by hoteliers requiring minimum information input which is easily available.

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