Eco-practices – Prerequisite for Increasing the Environmental Performance and the Social Responsibility in Hotel Industry

Mirela Ştefănică,
Christiana Brigitte Sandu
„Alexandru Ioan Cuza" University of Iasi,
Faculty of Economics and Business Administration
mirela.stefanica@uaic.ro
christiana.balan@uaic.ro

Abstract

This paper aims at explaining the relationship between hotels' environmental performance, achieved through the implementation of good managerial eco-practices, and the social responsibility. In this study, we have assessed the managerial eco-practices through the following dimensions: eco-friendly purchases and suppliers, energetic efficiency monitoring, waste management, recycling, water management and staff ecological formation. The data collected through a survey on a sample of hotels from the Veneto Region of Italy have been analysed using the Partial Least Squares method performed using the SmartPLS 3.0 software. Research results confirm that good eco-practices of hotel managers lead to environmental performance. Moreover, the results also suggests that hotel managers are involved in programs and projects with a role in enhancing environmental issues, thus demonstrating social responsibility.

Key words: good managerial eco-practices, recycling, waste and water management, eco-friendly purchases, PLS-SEM
J.E.L. classification: C30, L83, O13, Q56

1. Introduction

The environmental performance, the measures implemented to achieve it, the environmental strategies adopted in the tourism industry, and the factors and tools underpinning have been important issues in tourism research (Mensah and Blankson, 2013; Ayuso, 2007; Radwan, Jones and Minoli, 2012; Kasim, 2009).

Theoretical and practical approaches in the field of tourism have placed great emphasis on economic and social performance and have been less concerned about the environment. Recent studies have shown that economic performance was monitored, for example, by 66% of the respondents, while the environmental and social performance were monitored by only 42% and 28% of the respondents, respectively (Mihalič et al., 2012).

The concept of environmental performance refers to measurable results of the environmental management system, linked to organizational monitoring of the environmental issues, based on its policy, general objectives and specific environmental objectives (Hobincu, 2004). In tourism, the achievement of environmental performance does not only comply with minimum environmental standards but also refers to the adoption of best practices, accreditation schemes, codes of ethics, and environmental certification (Honey and Rome, 2001; Popescu et al., 2014). Moreover, every manager is concerned with maximizing the positive impact and minimizing the negative impact of the organization on society, and consequently with increasing the organization's social responsibility (Dumitriu, 2005). It can be noticed an evolutionary process at firms' level with regard to the integration of environmental issues into complex strategic plans. It has been highlighted that the inclusion of environmental issues among the main concerns of large-scale general planning also entails increased social responsibility (Ţigu and Călăreţu, 2013).

Therefore, our study aims to assess the implementation of good managerial practices in hotels and consequently to study the relationship between achieving environmental performance and social responsibility. Our goal is to highlight that hotel managers interested in reaching environmental performance are more involved in programs and projects with a role in improving environmental issues and they are more socially responsible.

2. Literature review

Many studies have emphasized the fact that hotel industry is a high-energy intensive and polluting sector (Bohdanowicz, 2005; Ragab and Meis, 2016; Zorpas, Voukkali and Loizia, 2015). It has been observed that a hotel produces between 160 and 200 kg of carbon dioxide (CO2) per square meter in order to generate electricity, heating or cooling, in dependence to the type of fuel used. In the case of European hotels, yearly energy consumption is of 39 twh (terawatts per hour) and the emissions are responsible for approximately 13.6 megatons of CO2. Additionally, tourists consume between 170 and 440 liters of water per day and each tourist produces about one kg of daily waste, of which no more than 60% is recyclable (Bohdanowicz, 2005).

It has been argued that many hotel operators have little interest in undertaking actions such as reducing waste, implementing an efficient waste management or recycling, considering that such activities are highly costly and time-consuming (Kasim, 2009). More recently, based on a cost-benefit analysis of the impact of the hotel industry on waste management, it has been underlined that providing a solid waste management in hotels and implementing specific practices for waste prevention / minimization at source are highly important (Zorpas, Voukkali, and Loizia, 2015). Considering that solid waste generation and disposal is one of the most negative effects on the environment, some studies have developed good practice models that policymakers should be encouraged to implement in their hotels (Radwan, Jones, and Minoli, 2012; Kasim, 2009).

A study on recycling gray water and reducing water consumption in hotels suggests implementing a water management system through 4Rs approach: Innovative Reducing, Innovative Reusing, Innovative Reaching and Innovative Recycling (Kasim et al., 2014). By implementing water management system, hotels have obtained commercial benefit irrespective to hotels' size or different managerial capacities. Other authors have found that implementing environmental measures leads to customer benefits, energy efficiency, efficient water use, thus influencing recycling policy and green living characteristics of hotels (Trang, Lee, and Han, 2018).

Recent studies have identified six key factors in achieving environmental performance, namely: environmental education and staff training support for the host community, support for preservation projects, compliance with environmental regulations, waste management and volunteer programs (Mensah and Blankson, 2013). It has been noticed that higher rated or larger hotels have improved their environmental performance, while affiliation to hotel chains has not led to higher performance. The effective use of lighting and the elimination of diesel use are the most common strategies in Mexican hotels in order to improve environmental performance. Nevertheless, hotels have begun to become involved in preserving and recycling programs as a means of reducing energy costs and solid waste (Revilla, Dodd and Hoover, 2001).

The analysis of voluntary environmental instruments used to achieve environmental performance (codes of conduct, environmental best practices, eco-labels, EMS – environmental management systems and environmental performance indicators) has allowed identifying formal certification systems, such as eco-labels and EMS as the most effective tools in achieving environmental performance (Ayuso, 2007).

Recent studies on the relationship between hotels' environment initiatives and financial performance have highlighted that companies' financial performance can have influence on environmental performance, as firms with good financial performance are better able to allocate more resources to support environment initiatives (Jackson, Singh, and Parsa, 2015). However, other studies have come to the conclusion that environmental practices have a direct and significant impact on the competitiveness of hotels and their financial results (Bagur-Femenías, Martí, and Rocafort, 2015; López-Gamero, 2016). Thus, the use of environmental management systems is associated with cost-saving innovations, while innovations in water and energy saving, wastewater treatment, noise reduction, sound insulation have contributed to increasing hotel's quality and

competitiveness (De Burgos-Jiménez, Cano-Guillén, and Céspedes-Lorente, 2002).

It is worth noting that obtaining environmental performance means savings, competitive advantage, employees' loyalty, customers' fidelity, compliance with regulations, risk management and social responsibility (Graci and Dodds, 2008). A recent study highlighted that hotels communicate fewer pro-environment practices than they actually achieve, and there has been shown that only 30% of these practices are made public (Font, Elgammal, and Lamond, 2017). Nevertheless, there is still a great gap between attitude and action in the tourism industry.

3. Research methodology

The aim of this study is to analyse the relationship that exists between good eco-managerial practices, environmental performance and social responsibility. Consequently, we have developed the following conceptual model presented in Figure 1.

Figure no. 1. Conceptual model

Source: Authors' construction

Eco-managerial practices relate to efficient waste management, energy consumption reduction, recycling, eco-friendly purchasing, staff training – all of which play an important role in achieving environmental performance that can influence increase of social responsibility.

We have advanced two research hypotheses:

H1. There is a direct and positive relationship between good managerial eco-practices and the hotel's environmental performance.

H2. There is a direct and positive relationship between the environmental performance and the ecological social responsibility of the hotel.

For this study, data have been collected through a survey. The benefit of this approach is that it provides more flexibility and data gathering is faster than other methods.

The questionnaire was designed to assess the eco-managerial practices and the social ecological responsibility behaviour of hotels' managers. All survey questions utilized a five-point Likert scale that offered a range of answer options from 1 – "strongly disagree" to 5 – "strongly agree". The questionnaire has been pre-tested within a pilot survey on a small convenience sample in order to verify the appropriateness of questions. After the errors have been solved, the actual survey was executed.

The sample comprised 43 hotels from the Veneto Region of Italy. The Veneto Region is located in north-eastern Italy and comprises seven provinces, namely: Belluno, Padova, Rovigo, Treviso, Venice, Verona, and Vicenza. The hotels were selected based on accessibility.

The sample structure according to a set of characteristics such as property type, hotel classification and hotel size (upon the number of employees) is presented in Table 1.

Table no. 1. Sample structure

Hotels' characteristics	N (%)
Type of property	
Independent hotel	31 (72.1%)
Chain hotel	12 (27.9%)
Classification	
3 stars	14 (32.6%)
4 and 5 stars	29 (67.4%)
Size	
Small and Medium	29 (67.4%)
Large	14 (32.6%)

Source: Authors' calculation

For testing the relationship between the constructs, structural equation modelling based on partial least squares method was used. We have applied partial least square analysis (PLS) using SmartPLS (v. 3.2.7) software (Ringle, Wende, and Becker, 2015). The PLS handles two models: the outer model (the measurement model) relating the manifest (observable) variables to their own latent variables; and the inner model (the structural model) relating some latent variables to other latent variables. The measurement model is tested by the reliability and validity analyses while the structural model is tested by path coefficients between constructs and the model.

4. Findings

Convergent reliability and validity indicators (Cronbach's alpha, AVE – average variance extracted, CR – composite reliability) measure the degree to which the items quantifying the same concept are in consistency (Hair et al., 2017). We can conclude that the measurement model is valid and reliable when the alpha values are above 0.6; the AVE values are greater than 0.5; the CR values for all constructs are above 0.7.

The list of constructs considered in our study and the measuring items corresponding to each construct is presented in Table 2.

Table no 2: Constructs and measurement items

Energy efficiency monitoring	
En1	Regular (monthly) monitoring of energy consumption
En2	Constant maintenance of the equipment
En3	High thermal insulation
En4	Employees' instruction to disable power-consuming sources (electrical and home appliances, lights) when not in use
En5	Installation of an energy-efficient heating and AC system
En6	Heating control by a thermostat
Waste management	
Ws1	Types and quantities of waste are monitored
Ws2	There are identified ways to reduce waste and actions are taken accordingly
Ws3	There are systems to minimize waste and to reuse and recycle whenever possible
Recycling	
Rec1	Recycling paper and cardboard
Rec2	Plastic recycling
Rec3	Recycling glass
Water management	
Wa1	Use of devices to reduce water flow in places of consumption (e.g. shower trays)
Wa2	Use of ventilating devices for the aeration of water to the sink batteries
Wa3	Use of wastewater recycling systems (gray water)
Staff ecological training	
Set1	The staff is regularly trained on environmental issues
Set2	Environmental policy or environmental policy statement is known by all employees
Set3	Environmental Policy or Environmental Policy Statement holds a commitment to continually improve environmental performance
Ecological products	
P1	Use of biodegradable cleaning agents (detergents)
P2	Use of hygienic paper with eco-labelled or chemically untreated
P3	Use of biodegradable, recyclable or returnable packaging
P4	Use of natural shampoos and soaps
Eco purchases and suppliers	
S1	Acquisition of organic products is a current policy of the hotel
S2	Ecological issues are taken into consideration when deciding to call upon a supplier
S3	In the contract with suppliers there are clauses requiring as few packaging as possible
S4	In the contract with suppliers there are clauses requiring a non-polluting transport of goods
Social ecological responsibility	

Ser1	Supports reforestation projects
Ser2	Sponsors events to increase awareness and understanding of environmental issues
Ser3	He is a member of an environmental protection association
Ser4	Supports and sponsors environmental organizations
Ser5	Makes donations to natural reserves
Ser6	Participates in garbage collection programs

Source: Authors' definition

The results presented in Table 3 on the measurement model indicate an adequate level of convergent reliability and validity.

Table no 3: Convergent reliability and validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Staff ecological training	0.839	0.905	0.763
Energy efficiency monitoring	0.841	0.883	0.563
Waste management	0.761	0.862	0.676
Water management	0.517	0.749	0.502
Recycling	0.832	0.764	0.549
Environment performance	0.858	0.875	0.256
Ecological products	0.817	0.879	0.646
Eco purchases and suppliers	0.730	0.829	0.554
Eco friendly	0.880	0.905	0.521
Social ecological responsibility	0.661	0.774	0.385

Source: Authors' calculation with SmartPLS (v. 3.2.7) software

Furthermore, the hypothesized relationships in the structural model were tested. Bootstrapping procedure was used to verify the significance levels of path coefficients.

Table 4 shows that path coefficients are significant between constructs in the model. These results show a strong support for the two hypotheses of this study. The path coefficient "Energy efficiency monitoring –> Environment performance" with 0.556 followed by the path coefficient "Eco friendly –> Environment performance" with 0.470 show that eco managerial practices (except for recycling) have a positive effect on environment performance. Thus, the first hypothesis (H1) is supported by the data. Similarly, the results show a strong support for the second hypothesis (H2). There is a positive and significant effect of environment performance on social ecological responsibility.

Table no 4. Testing of significance of path coefficients

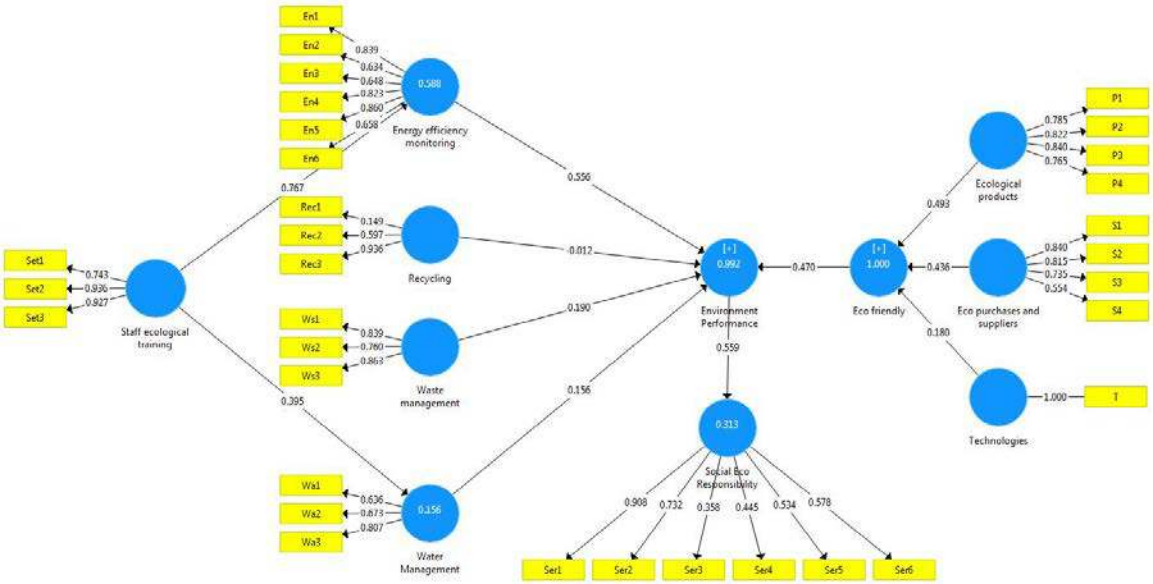
Relationships	Path coefficient	T Statistics
Staff ecological training –> Energy efficiency monitoring	0.767***	25.845
Staff ecological training –> Water Management	0.395***	4.939
Ecological products –> Eco friendly	0.493***	18.011
Eco purchases and suppliers –> Eco friendly	0.436***	17.033
Technologies –> Eco friendly	0.180***	10.707
Energetic efficiency monitoring –> Environment performance	0.556***	4.371
Waste management –> Environment performance	0.190**	3.160
Water management –> Environment performance	0.156***	4.573
Recycling –> Environment performance	-0.012	0.838
Eco friendly –> Environment performance	0.470***	3.788
Environment performance –> Social ecological responsibility	0.559***	7.114

Note: *** p value < 0.001, ** p value < 0.01, * p value < 0.05

Source: Authors' calculation with SmartPLS (v. 3.2.7) software

Figure 2 shows the coefficients of the structural equation model using the PLS analysis.

Figure no. 2. Structural model



Source: Authors' calculation with SmartPLS (v. 3.2.7) software

The results in Table 4 and Figure 2 reveal that the path coefficients are above the recommended value of 0.1 (Lohmoller, 1989). Moreover, the combination of ecological managerial practices has the predictive ability for 99.2% of the Environmental performance. In the same time, Environmental performance has the ability to explain 31.3% of the Social eco responsibility.

5. Conclusions

Hotels' environmental protection activities have impact on the sustainable development of tourism industry and support sustainable ecologic systems.

In order to explain the relationship between hotels' environmental performance, achieved through the implementation of good managerial eco-practices, and the social responsibility, we have conducted a study on a sample of 43 hotel establishments with three or more stars, located in the Veneto region of Italy. The managerial eco-practices have been assessed trough the following dimensions: eco-friendly purchases and suppliers, energetic efficiency monitoring, waste management, recycling, water management and staff ecological formation.

The results of the structural model showed that eco managerial practices of hotels' managers have a positive and significant impact on environment performance. Moreover, it was also observed that environment performance has effects on ecological social responsibility. Hence, the two hypotheses were accepted.

The limitations of this study refer to the specific region of Italy where the survey was conducted. However, a similar study may be conducted in other regions of Italy or in other countries.

We can conclude that hotel managers from Veneto region have an ecological behaviour with impact on environmental performance. Furthermore, they are involved in programs and projects thus proving their role in a society.

In conclusion, the paper has highlighted the importance of hotels' ecological behaviour, emphasizing its role in achieving environmental performance. The results have managerial implications that should encourage hotel managers to adopt eco-practices in order to achieve environmental performance and increase social responsibility.

6. References

- Ayuso, S., 2007. Comparing Voluntary Policy Instruments for Sustainable Tourism: The Experience of the Spanish Hotel Sector, *Journal of Sustainable Tourism*, 15(2), pp.144-159, DOI: 10.2167/jost617.0.
- Bagur-Femenías, L., Martí, J., Rocafort, A., 2015. Impact of sustainable management policies on tourism companies' performance: the case of the metropolitan region of Madrid, *Current Issues in Tourism*, 18(4), pp.376-390, DOI: 10.1080/13683500.2014.932757.
- Bohdanowicz, P., 2005. European Hoteliers Environmental Attitudes. Greening the Business, *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 46, No. 2, pp.188-204 [online] Available at:<http://journals.sagepub.com/doi/pdf/10.1177/0010880404273891> [Accessed 12 July 2018].
- De Burgos-Jiménez, J., Cano-Guillén, C.J., Céspedes-Lorente, J.J., 2002. Planning and Control of Environmental Performance in Hotels, *Journal of Sustainable Tourism*, 10(3), pp.207-221, DOI: 10.1080/09669580208667163
- Dumitriu, C., 2005. *Management şi marketing ecologic*, Iaşi: Tehnopress.
- Font, X., Elgammal, I., Lamond, I., 2017. Greenhushing: the deliberate under communicating of sustainability practices by tourism businesses, *Journal of Sustainable Tourism*, 25(7), pp.1007-1023,DOI: 10.1080/09669582.2016.1158829
- Graci, S., Dodds, R., 2008. Why Go Green? The Business Case for Environmental Commitment in the Canadian Hotel Industry, *Anatolia*, 19(2), pp.251-270, DOI: 10.1080/13032917.2008.9687072
- Hair Jr. J. F., Hult, G.T.M., Ringle. C., Sarsted, M. (2017) *A primer on partial least squares structural equation modelling (PLS-SEM)*, Sage Publication.
- Hobincu, R.V., 2004, *Politica de mediu şi crearea sistemelor de management de mediu*, Bucureşti: Perfect Publishing House.
- Honey, M., Rome, A., 2001. *Protecting Paradise: Certification Programs for Sustainable Tourism and Ecotourism*, Institute for Policy Studies, Washington.
- Jackson, L.A., Singh, D., Parsa, H.G., 2015. Tourism firms' environmental rankings and financial performance: a multidimensional scaling approach, *Journal of Sustainable Tourism*, 23(10), pp.1426-1444, DOI: 10.1080/09669582.2015.1044534.
- Kasim, A., 2009. Managerial attitudes towards environmental management among small and medium hotels in Kuala Lumpur, *Journal of Sustainable Tourism*, 17(6), pp.709-725, DOI: 10.1080/09669580902928468.
- Kasim, A., Gursoy, D., Okumus, F., Wong, A., 2014. The importance of water management in hotels: a framework for sustainability through innovation, *Journal of Sustainable Tourism*, 22(7), pp.1090-1107, DOI: 10.1080/09669582.2013.873444.
- Lohmoller, J.B., 1989. *Latent variable path modelling with partial least squares*, Heidelberg: Physica-Verlag.
- López-Gamero, M.D., Pertusa-Ortega, E.M., Molina-Azorín, J.F., Tarí-Guilló, J.J., Pereira-Moliner, J., 2016. Organizational antecedents and competitive consequences of environmental proactivity in the hotel industry, *Journal of Sustainable Tourism*, 24(7), pp.949-970, DOI: 10.1080/09669582.2015.1101124.
- Mensah, I., Blankson, E.J., 2013. Determinants of hotels' environmental performance: Evidence from the hotel industry in Accra, Ghana, *Journal of Sustainable Tourism*, 21(8), pp.1212-1231, DOI: 10.1080/09669582.2013.776058.
- Mihalič, T., Žabkar, V., Knežević, Cvelbar, L., 2012. A hotel sustainability business model: evidence from Slovenia, *Journal of Sustainable Tourism*, 20(5), pp.701-719, DOI: 10.1080/09669582.2011.632092.
- Popescu, C.R., Popescu, V.A., Popescu, G.N., 2014. The entrepreneur's role in the performance growth of the financial audit activity in Romania, *Amfiteatru Economic,* 17(38), pp.232-251.
- Radwan, H.R.I., Jones, E., Minoli, D., 2012. Solid waste management in small hotels: a comparison of green and non-green small hotels in Wales, *Journal of Sustainable Tourism*, 20(4), pp.533-550, DOI: 10.1080/09669582.2011.621539.
- Ragab, A.M., Meis, S., 2016. Developing environmental performance measures for tourism using a Tourism Satellite Accounts approach: a pilot study of the accommodation industry in Egypt, *Journal of Sustainable Tourism*, 24(7), pp.1007-1023, DOI: 10.1080/09669582.2015.1107078.
- Revilla, G., Dodd, T.H., Hoover, L.C., 2001. Environmental Tactics Used by Hotel Companies in Mexico, *International Journal of Hospitality & Tourism Administration*, 1(3-4), pp.111-127, DOI: 10.1300/J149v01n03_07.

- Ringle, C.M., Wende, S., Becker, J.-M., 2015. *"SmartPLS 3."* Boenningstedt: SmartPLS GmbH, http://www.smartpls.com.
- Țigu, G., Călărețu, B., 2013. Performanţele Supply Chain Management în turism. Studiu de caz la S.C. Continental Hotels S.A., *Amfiteatru Economic*, 15(33), pp.60-73.
- Trang, H.L.T., Lee, J-S., Han, H., 2018. How do green attributes elicit pro-environmental behaviors in guests? The case of green hotels in Vietnam, *Journal of Travel & Tourism Marketing*, DOI: 10.1080/10548408.2018.1486782.
- Zorpas, A.A., Voukkali, I., Loizia, P., 2015. The impact of tourist sector in the waste management plans, *Desalination and Water Treatment*, 56(5), pp.1141-1149, DOI: 10.1080/19443994.2014.934721.