

BARRIERS TO ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS): CASE OF 4 AND 5 STAR HOTELS IN ISTANBUL

Ömer Çoban

Batman University/School Tourism and Hotel Management, Batman, Turkey

S. Emre Dilek

Batman University/School of Tourism and Hotel Management, Batman, Turkey

Ecem Tezgel

Istanbul University/Institute of Social Sciences, Istanbul, Turkey

ABSTRACT

In the late 1990s with studies that focused on the driving forces, costs and benefits and nature of such systems began about EMS. However, in tourism, very little research has been conducted on EMS, except for a few studies on environmental management, such as the environmental protection practices and environmental performance of hotels. In this study, we tried to determine the barriers to EMS of 4 and 5 stars' hotels operating in Istanbul. In this regard, the aim of this study is to encourage the hotels how they implement EMS through eliminating the barriers.

The data were collected from the top and mid-level managers of hotels between October and December in 2016 by face to face survey. Data gained from 114 hotels was analyzed via factor analyses, independent samples t-test and ANOVA. It was found that EMS barriers can be examined under three dimensions as; (1) lack of knowledge, skills and professional advice, (2) uncertainty of outcomes, (3) lack of resources and costs. On the other hand, hotels characteristics play an important role on these dimensions.

Keywords: EMS, Barriers, Hotels, Tourism, Istanbul.

INTRODUCTION

The environmental awareness has been increased day by day for all industries. Their interactions with the environment have been an issue of interest (Leonidou & Leonidou, 2010), due to either external (regulations) or internal reasons (business policy) (Psomas, et al., 2011). Service businesses which are called the "silent destroyers of the environment" (Hutchinson, 1996) should pay more attention to

environmental issues. Hence, tourism is one of the industries that intensively depend on the environment (Mensah, 2006). Tourism industry has been contained four major components, these are hospitality services, tour operators and travel agencies, attractions towards natural, cultural and historical resources and transportation services (McIntosh & Goeldner 1990). In this regard, hotels are the most important element of the travel and tourism industry and play a critical role in concerns over environmental protection (Erdogan & Baris, 2007). Because of the hotels use the natural resources as a part of tourism products (Chan, 2011) and consume quantities of water, energy and non-durable products (Robinot & Giannelloni, 2010).

So, the hotels should concern about environmental issues.

EMS have recently been more recognized in the hotel industry around the world (Chan, 2009). EMS in the hotel industry should account for the impact of environmental management on the natural resources (Holden, 2000). The areas of environmental management include: (1) recycling of waste, (2) waste management, (3) energy and water saving, (4) environmental health, (5) clean air and environmental education (Chan & Wong, 2006; Mensah, 2006; Middleton & Hawkings, 1998) in the hotel industry. Main benefits of environmental management are; cost efficiency, minimizing resource consumptions, improving financial performance, competitive advantage, corporate image, gaining the trust of tourists (Ayuso, 2006; Bohdanowicz, 2006; Kasim, 2007; Chan, 2008; Chan, 2009; Chan, 2011; Chan & Hawkins, 2010; Goodall, 1995; Kirk, 1995; Tzschentke, et al., 2004).

Most known EMS are ISO 14000 series, providing an effective guideline, auditing, evaluation on the content of environmental management for hotels (Chan & Ho, 2006). ISO 14000 standards which extend between hotel and its guests, suppliers and even the residents (Chan, 2011). However, the hotels have some barriers to EMS implementations such as, lack of knowledge and skills, professional advice, resources and implementation costs (Chan, 2008).

The aim of this study is to determine barriers to EMS of 4 and 5 stars hotels in Istanbul. Additionally, if there are significant differences occurring in EMS barrier dimensions according to the hotel characteristics investigated in the study. So we tried to reveal the barriers to EMS of the hotels and suggest some advices related to reduce the barriers to EMS. Except for a few studies on environmental management, very little research has been conducted on EMS in the hotel industry. Therefore, it was aimed to contribute to the literature and assistance in developing environmental performance of hotels in Istanbul.

EMS FRAMEWORK AND PRACTICES IN THE HOTELS

An Environmental Management System is defined as a part of the overall management system which includes the organizational structure, planning activities, liabilities, implementations, procedures, obtain, apply, achieving, reviewing and maintaining a company's environmental policy (Chan, 2011; Sambasivan & Fei, 2008). EMS have revealed as one of the most efficient instruments to achieve sustainable development since the 1990s (Chan, 2011). The purposes of EMS are to achieve adapting to environment, reducing waste and protecting natural resources by managing institutional environmental action (Sayre, 1996).

EMS enable an organization to control the effects of production process on the environment (Sena da Silva & Dumke de Medeiros, 2004). It is not only focusing company's attention on negative environmental impacts, but also sustaining high environmental standards in whole organization (Morrow & Rondinelli, 2002). In other words, EMS emphasize the need by protecting the environment for a company's sustainability and future generation (Chavan, 2005). However, EMS can provide some benefits to a company such as; financial advantages via energy saving and reduction in other resources. In addition to these benefits, it can improve the company's image with all stakeholders. (Hemenway & Hale, 1995).

EMS include various systems such as EU eco-management and audit scheme (EMAS), Green Globe 21 and ISO 14000 series (Chan & Wong, 2006; Psomas et al., 2011; Ustad, 2010). ISO 14000 series are one of the well-known EMS, which were developed in 1996 by the International Standards Organization (ISO) (Peiro- Signes et al., 2014; Psomas et al., 2011). ISO 1400 series consist of 34 environmental standards shown the table below:

Table 1

The ISO 14000 Family of International Standards

| Group | Standards |
|--|--|
| Environmental Management Systems | ISO 14001, ISO 14004, ISO 14005, ISO 14006 |
| Environmental Assessment | ISO 14015, ISO 19011 |
| Environmental Labeling | ISO 14020, ISO 14021, ISO 14024, ISO 14025 |
| Environmental Performance Evaluation | ISO 14031, ISO/TS 14033, ISO 14034 |
| Life Cycle Assessment | ISO 14040, ISO 14044, ISO 14045, ISO |
| Environmental Management Vocabulary | ISO 14050 |
| Material Flow Cost Accounting | ISO 14051 |
| Greenhouse Gases | ISO/TR 14062, ISO 14063, ISO 14064-1, ISO |
| Environmental Aspects in Product Standards | ISO Guide 64 |

Source: ISO, 2016.

Of the above series, ISO 14001 has the only standard that a company becomes certification for EMS (Chan and Wong, 2006). Therefore, ISO 14001 is one of the most popular EMS standards, especially in Europe (Gonzalez- Benito & Gonzalez-Benito, 2005). It consists of five major factors: (1) environmental policy, (2) planning, (3) implementation and operation, (4) auditing and (5) feedback (Chan, 2008; Chan & Wong, 2006; Erickson & King, 1999; Krnt & Gleckman, 1998; Natrass & Altmore, 1999). ISO 14001 provides both material and moral utilities to companies, such as cost curtailment and economy, advanced communication, advanced corporate image, progression in operational duration (Chandrashekar et al., 1999; Daily & Huang, 2001; Darnall et al., 2000; Hanna et al., 2000; Lee-Mortimer, 2000; ; Maxwell et al., 1997; Natrass & Altmore, 1999; Schaarsmith, 2000; West & Manta, 1996; Zingale & Himes, 1999).

EMS in hospitality industry are very important issue to minimize negative effects of hotels' operations on environment. Therefore, EMS are vital matter in both hospitality sector and tourism research field. There are many studies focusing on the relationship between hotels and environmental management have recently been conducted (Chan, 2008; Chan, 2009; Chan, 2011; Chan & Hawkins, 2010; Chan & Ho, 2006; Gil et al., 2001; Kirk, 1995; Kirk, 1998; Le et al., 2006; Mensah, 2006; Pereira-Moliner et al., 2012; Ustad, 2010; Ustad et al., 2010). With reference to studies, two motivating factors for the adoption of EMS can be expressed as; corporate governance and legislation for the hotels (Chan & Wong, 2006; Segarra Ona et al., 2012). Thus, several empirical studies aimed to determine that EMS may improve customer and employee satisfaction and corporate image (Bohdanowicz, 2005; Hillary, 2004; Kirk, 1995; Molina-Azorin et al., 2009; Pereira-Moliner et al., 2012). Other important benefits of EMS in hotels are to increase profitability and improve relationships with the local community (Kirk, 1998). When it comes to implementations of EMS in the hotels, there are various implications listed below (Chan, 2011; Stipanuk, 1996; Ustad, 2010):

- Renewable energy
- Energy saving
- Water consumption
- Waste sorting and reducing
- Supporting to protect biodiversity and natural resources
- Reducing air and sound pollution

Hotel industry's wide adoption of EMS is still slow, despite the success of several hotels due to unable or unwilling to implement (Chan & Ho, 2006; Kasim, 2009). This situation is derived from internal and external barriers (Chan, 2008; Hillary, 1999; Hillary, 2004), these barriers are main focus of our paper.

LITERATURE REVIEW

Academic research into EMS began in the late 1990s (Chan, 2011). EMS have recently studied in various research field such as planning (Chin et al., 1999; Pun et al., 2002), motivation (Quazi et al., 2001), benefits, drivers and barriers (Chan, 2006; Galan et al., 2007; Chan, 2008; Chan, 2011; Chan & Wong, 2006;; Lozano & Valles, 2007, Zutshi &Sohal, 2004). Thus, EMS are well-recognized in the tourism and hospitality industry and widely studied research topic (Chan & Ho, 2006). Several studies have analyzed the environmental implementation in the hotel industry (Kirk, 1995; Kirk, 1998; Trung & Kumar, 2005). Some other studies have examined the determinants of environmental innovation (CrespECladera & Orfila-Sintes, 2005) and the factors to adopt environmental practices (Le et al., 2006), main barriers to EMS motivations (Chan, 2006; Chan, 2008).

Previous research on EMS determined that international, multinational group, large and chain hotels being long operational period were mostly to pay attention to environmental management (Erdogan & Baris, 2007; Chan, 2011; Mensah, 2006;). For instance, in Elkington (1994), Shrivastava (1995), Gil et al. (2001) have been found that the age of hotel facilities can influence hotels' environmental performance. On the other hand, Gilley et al. (2000), Foster et al. (2000), Kasim (2009) have also stated there is an importance of the relationship between size of hotel and environmental management. Most studies have also claimed that hotels' ownership affect hotel's environmental management when compared to those hotels which were part of chains or independent (Cummings, 1997; Erdogan & Baris, 2007; Enz &Siguaw, 1999; Gil et al., 2001; Kirk, 1995; Kirk, 1998).

Few studies consider a relationship between the implementation of EMS and barriers in tourism literature. Hillary (2004) identified some internal and external barriers to the adoption of EMS in reviewing the literature. Internal barriers are lack of resources, understanding and perception, implementation problems and attitudes and company culture. External barriers are certification and verification costs, lack of financial resources, institutional weaknesses and lack of support and guidance (Chan, 2008; Hillary, 1999; Hillary, 2004; Ustad, 2010; Ustad et al., 2010). In addition to that Erdogan and Baris (2007) demonstrated these barriers could be lack of information about the level of environmental knowledge and disinterest of hotel managers related to EMS. Chan (2008) used Hillary's (1999, 2004) statements as a measurement instrument in his study, to investigate the barriers related to

EMS in Hong Kong hotel industry. Six barrier dimensions have been emerged in Chan's (2008) study as; (1) lack of knowledge and skills, (2) lack of professional advice, (3) lack of resources, (4) uncertainty of outcome, (5) certifiers/verifiers, (6) implementation and maintenance costs.

RESEARCH METHOD

Hillary (2004) developed a scale by examining 28 studies in 1999 to measure the barriers faced by businesses in the literature about the EMS. These barriers consist of 48 factors and eight dimensions which were identified by Hillary as some internal and external barriers (Hillary, 2004). Chan (2008) tried to address the barriers to EMS of hotels in Hong Kong in his study with reference to Hillary's scale. In this study we used the scale by Chan (2008) to investigate barriers to EMS of 4 and 5 star hotels in Istanbul. The questionnaire consists of two parts. The seven questions to identify hotels' characteristics in the first part. 28 statements were tried to determine the barriers related to EMS in hotel industry in the second part of questionnaire. The respondents were asked to rate these statements on a 5-point Likert scale which are from 1=Strongly Disagree to 5= Strongly Agree. The population of the study was all the four stars hotels (119) and five stars hotels (90) in Istanbul according to Istanbul Provincial Directorate of Culture and Tourism in 2016. The data were collected from the top and mid-level managers of 114 hotels between October and December in 2016 by face to face via convenience sampling method. The questionnaire was firstly translated into Turkish and then taken two academics' opinion who study on tourism and environment. It was used to ask a pilot test group comprising 12 hotel managers. Afterwards, two statements removed from the questionnaire.

The 114 data were analyzed via factor analyses, independent t-test and ANOVA.

ANALYSIS AND FINDINGS

Factor analysis with VARIMAX rotation was employed to analyze dimensional structure of 26 barrier statements. A factor loading of > 0.5 was set as the criteria to select each statements (Hair et al., 2010). As shown in Table 1, the three factors were identified; (1) lack of knowledge, skills and professional advice, (2) uncertainty of outcomes, (3) lack of resources and costs differently from Chan's (2008) study. Factor 1-2 of Chan's study have clustered under one factor (lack of knowledge, skills and professional advice) and also factor 5-6 under one factor (lack of resources and costs) in our study. Besides factor 4 of Chan's study hasn't played a part in our study. The Cronbach alpha of each dimension was also examined, and the value of dimensions were: lack of knowledge, skills and professional advice = 0.978; uncertainty of outcomes = 0.963; lack of resources and costs = 0.921 (see Table 2). The reliability of three factors over 0.90 were excellent according to Hair et al. (2010).

The mean of statements under three factors ranged from 2.75 to 4.00. The lowest and highest means in factor 1 were respectively examined as “*poor quality information and conflicting guidance is given for the EMS*” with 2.75; as “*changing economic climate alters the priority given to an EMS in hotel*” with 3.89. The means in factor 2; “*drivers and benefits are insufficient*” and “*we doubt the ongoing effectiveness of EMS to deliver objectives*” were highest with 3.26 and “*multifunctional staff is easily distracted by other work*” was lowest with 3.15. Finally, “*the support from top management for EMS implementation is inconsistent*” was the lowest mean with 3.20 and “*implementation of EMS requires capital expenditure*” was the highest with 4.00 in factor 3. After analyzing the overall mean value of three factors on barriers, it was determined that lack of resources and costs were considered by the hotel managers as the most important barrier (3.51).

Table 2
Factor Analysis with Varimax Rotation and Reliability Analysis

| Attributes | Mean | Factor Loading | Communality | Factor and Overall Mean | Eigen-value | Variance % | Cumulative Variance % | Cronbach's Alpha |
|---|------|----------------|-------------|--|-------------|------------|-----------------------|------------------|
| We lack the knowledge of formalized systems | 2,80 | ,842 | ,822 | | | | | |
| Poor quality information and conflicting guidance is given for the EMS | 2,75 | ,833 | ,839 | | | | | |
| Lack of understanding of ISO 14000 environmental statements or value reporting | 2,79 | ,817 | ,780 | | | | | |
| We lack the sector specific implementation tools and examples | 2,87 | ,814 | ,793 | | | | | |
| We do not have adequate technical knowledge and skills for EMS | 2,76 | ,812 | ,799 | | | | | |
| Lack of promotion of EMS | 2,85 | ,809 | ,783 | | | | | |
| We lack specialist staff for EMS | 2,83 | ,797 | ,784 | | | | | |
| Lack of explanation of concepts and more guidance needed on environmental aspects and significance evaluation | 2,80 | ,787 | ,845 | Factor 1: Lack of Knowledge, Skills and Professional Advice (3,27) | 17,62 | 37,86 | 37,86 | ,978 |
| We lack experienced consultants of quality to assist hotels | 3,88 | ,723 | ,817 | | | | | |
| The institutional arrangement for ISO 14001 is inadequate | 3,76 | ,719 | ,798 | | | | | |
| We lack experienced verifiers | 3,67 | ,704 | ,744 | | | | | |
| Changing economic climate alters the priority given to an EMS in hotel | 3,89 | ,669 | ,743 | | | | | |
| A single authoritative body to interpret ISO 14000 is absent | 3,15 | ,656 | ,761 | | | | | |
| There is a lack of clear or strict legislative framework | 3,83 | ,651 | ,760 | | | | | |
| A central source of information on environmental legislation is absent | 3,85 | ,641 | ,694 | | | | | |
| There are no benefits to implement EMS | 3,20 | ,810 | ,862 | | | | | |
| We doubt the ongoing effectiveness of EMS to deliver objectives | 3,26 | ,808 | ,868 | | | | | |
| We are uncertain about the value of an EMS in the market place | 3,21 | ,805 | ,839 | Factor 2: Uncertainty of Outcomes (3,21) | 1,95 | 24,63 | 62,49 | ,963 |
| Drivers and benefits are insufficient | 3,26 | ,790 | ,795 | | | | | |
| We have difficulties in evaluating environmental aspects/effects and determining the significance during the implementation of EMS | 3,20 | ,787 | ,855 | | | | | |
| Multifunctional staff is easily distracted by other work | 3,15 | ,756 | ,836 | | | | | |
| We lack management and/or staff time for implementation and maintenance | 3,21 | ,856 | ,858 | | | | | |
| The support from top management for EMS implementation is inconsistent | 3,20 | ,706 | ,804 | Factor 3: Lack of Resources and Costs (3,51) | 1,09 | 17,00 | 79,51 | ,921 |
| Implementation of EMS requires capital expenditure | 4,00 | ,699 | ,717 | | | | | |
| The cost of implementation and maintenance is high | 3,93 | ,665 | ,785 | | | | | |
| We lack accessible financial support | 3,22 | ,659 | ,694 | | | | | |
| Kaiser-Meyer-Olkin Measures of Sampling Adequacy: % 95,9; Bartlett's Test of Sphericity: X ² : 3589,771; df: 325; p<0.001; Grand Mean: 3,306; Cronbach's Alpha for Whole Scale: ,980 | | | | | | | | |

Table 3
Comparison of Means (One-Way ANOVA and T-Test) for the Barriers to EMS

| Group No. Factors | Sample Size (%) | Lack of Knowledge, Skills and Professional Advice | Uncertainty of Outcomes | Lack of Resources and Costs |
|-----------------------------------|-----------------|---|-------------------------|-----------------------------|
| Type | | | | |
| 1. Independent | 32 (%28) | 3,58 | 3,95 | 3,91 |
| 2. National Chain | 28 (%25) | 3,23 | 3,20 | 3,43 |
| 3. International Chain | 54 (%47) | 3,11 | 2,77 | 3,31 |
| ANOVA (Sign. Value) | | ,074 | ,000* | ,000* |
| Scheffe Multiple Comparison | | | G1>G2>G3 | G1>G2>G3 |
| Ownership | | | | |
| 1. Franchising | 76 (%67) | 3,05 | 2,91 | 3,12 |
| 2. Direct Investment | 27 (%24) | 3,56 | 3,38 | 3,57 |
| 3. Management Contract | 11 (%9) | 3,29 | 3,11 | 3,57 |
| ANOVA (Sign. Value) | | ,004* | ,005* | ,015* |
| Scheffe Multiple Comparison | | G2>G3>G1 | G2>G1 | G2&G3>G1 |
| Number of Rooms | | | | |
| 1. 60-124 Rooms | 38 (%34) | 3,57 | 3,71 | 3,64 |
| 2. 125-208 Rooms | 38 (%33) | 3,38 | 3,31 | 3,64 |
| 3. Above 209 Rooms | 38 (%33) | 2,87 | 2,60 | 3,24 |
| ANOVA (Sign. Value) | | ,003* | ,000* | ,018* |
| Scheffe Multiple Comparison | | G1>G3 | G1>G2>G3 | G1&G2>G3 |
| Grading | | | | |
| 1. 4-Star | 60 (%53) | 3,55 | 3,63 | 3,63 |
| 2. 5-Star | 54 (%47) | 2,97 | 2,74 | 3,37 |
| T-Test (Sign. Value) | | ,001* | ,000* | ,048* |
| ISO 14001 | | | | |
| 1. Have ISO 14001 | 29 (%25) | 1,82 | 1,77 | 2,64 |
| 2. Have not ISO 14001 | 85 (%75) | 3,76 | 3,70 | 3,80 |
| T-Test (Sign. Value) | | ,000* | ,000* | ,000* |
| Intention to get ISO 14001 | | | | |
| 1. Yes | 50 (%59) | 3,64 | 3,26 | 3,69 |
| 2. No | 35 (%41) | 3,94 | 4,32 | 3,97 |
| T-Test (Sign. Value) | | ,002* | ,000* | ,007* |

Significance at the 0,05 level is shown in italics.

As can be seen in Table 3, the independent samples t-test a ANOVA analysis were used to understand whether barrier scores differed significantly by category of hotel type, ownership, size, class, etc. When factor 1 and the hotels' types were compared, it was found that there are no statistically meaningful differences between them. Apart from that, between all factors and hotels' characteristics have determined statistically meaningful differences.

CONCLUSION AND DISCUSSION

Tourism and hospitality businesses have intense ties with environment and environmental sources. But, there have been few studies on the barriers to EMS in the hotel industry (Chan, 2008; 2011). In this study, the answer is tried to reveal about the main question: "what are the barriers to EMS in hotel industry?". The findings of this study have revealed to understand the barriers to EMS in the hotel industry in Istanbul.

The findings of this study have shown that there are three main barriers to EMS in the hotel industry differently from Chan's study (2008) in Hong Kong. When ranking in order, from the highest mean score barrier factor to the least, we have: (1) lack of resources and costs; (2) lack of knowledge, skills and professional advice; (3) uncertainty of outcomes. These barriers indicate that hotels are normally hindered by both internal and external barriers (Hillary, 2004; Chan, 2008). The internal barriers such as knowledge, skills, resources, and costs, etc. have the most significant role for the hotels according to the findings. Nevertheless, types, ownership, classes etc. of the hotels have influence on adopting and implementing of EMS. In fact, these findings have parallels with other studies in the literature (Chan, 2011; Erdogan & Baris, 2007; Kasim, 2009; Mensah, 2006). We found that national and international chains, franchise, large, upper class hotels have less barrier in comparison with independent, direct investment, small and lower class hotels. In addition, if hotels have EMS or intention to get EMS, they meet barriers lightly.

On the other hand, even though the hotels are aware of the high costs with EMS, their outcome expectations on EMS are also high. It shown that the hotels are disposed to adopt and implement by reducing the barriers. The findings in this study can be used as a reference for the hotel industry in Istanbul. The hotels will have the opportunity of better understanding the barriers for EMS adoption so that they can formulate a suitable implementation strategy. It is sure that implementing EMS will bring some costs to the hotel businesses, but in a long period of time, benefits of implicating EMS will exceed the costs. Thus, hotel managers and business owners should start to adopt environmental policies. And start to eliminate barriers such as; lack of

resources and costs, lack of knowledge and uncertainty of outcomes. These barriers are in an internal manner. So there are also some tasks for public bodies encouraging hotels to implement EMS.

Notwithstanding, there are some limitations of the study and the findings cannot be generalized for all hotels in any market. Firstly, since all respondents were four and five stars hotels, the identified barriers in the study might not be applicable to the smaller sized hotels. Thus, in the future researches, the researchers can focus hotels with small sizes. Our study focus hotels operated in Istanbul and 12 months' open city hotels. So there would be some differences in resorts or seasonally operated hotels in different regions of Turkey.

REFERENCES

- Ayuso, S. (2006). Adoption of voluntary environmental tools for sustainable tourism, analysing the experience of Spanish hotels. *Corporate Social Responsibility and Environmental Management*, 13: 207-220.
- Bohdanowicz, P. (2005). European hoteliers' environmental attitudes greening the business. *Cornell Hotel and Restaurant Administration Quarterly*, 46(2), 188-204.
- Bohdanowicz, P. (2006). Environmental awareness and initiatives in the Swedish and Polish hotel industries- survey results. *International Journal of Hospitality Management*, 25: 662-682.
- Cespedes-Lorente, J., de Burgos-Jimenez, J. & Alvarez-Gil, M. J. (2003). Stakeholders' environmental influence. An empirical analysis in the Spanish hotel industry. *Scandinavian Journal of Management*, 19(3), 333-358.
- Chan, E. S. W. & Hawkins, R. (2010). Attitude towards EMSs in an international hotel: An exploratory case study. *International Journal of Hospitality Management*, 29: 641-651.
- Chan, E. S. W. & Wong, S. C. K. (2006). Motivations for ISO 14001 in the hotel industry. *Tourism Management*, 27(3), 481-492.
- Chan, E. S. W. (2008). Barriers to EMS in the hotel industry. *International Journal of Hospitality Management*, 27(2), 187-196.
- Chan, E. S. W. (2011). Implementing Environmental Management Systems in small-and medium-sized hotels: obstacles. *Journal of Hospitality & Tourism Research*, 35(1): 3-23.
- Chan, W. W. & Ho, K. (2006). Hotels' environmental management systems (ISO 14001): creative financing strategy. *International Journal of Contemporary Hospitality Management*, 18(4), 302- 316.
- Chan, W. W. (2009). Environmental measures for hotels' environmental management systems: ISO 14001. *International Journal of Contemporary Hospitality Management*, 21(5), 542-560.
- Chandrashekar, A., Dougless, T. & Avery, G. C. (1999). The environment is free: the quality analogy. *Journal of Quality Management*, 4(1), 123-143.

- Chavan, M. (2005). An appraisal of environment management systems: A competitive advantage for small businesses. *Management of Environmental Quality: An International Journal*, 16(5), 444-463.
- Chin, K. S., Chiu, S. & Rao Tummala, V. M. (1999). An evaluation of success factors using the AHP to implement ISO 14001-based EMS. *International Journal of Quality & Reliability Management*, 16(4), 341-361.
- CrespLCladera, R. & Orfila-Sintes, F. (2005). Environmental innovation in the hotel industry of the Balearic Islands. In Sharma, S. & Aragon-Correa, J. A. (Ed.) *Corporate environmental strategy and competitive advantage*. Cheltenham: Edward Elgar Publishing.
- Cummings, L. E. (1997). Waste minimization supporting urban tourism sustainability: A mega-resort case study. *Journal of Sustainable Tourism*, 5(2), 93-108.
- Daily, B. F. & Huang, S. (2001). Achieving sustainability through attention to human resource factors in *environmental management*. *International Journal of Operations & Production Management*, 21(12), 1539-1552.
- Darnall, N., Gallagher, D. R., Andrews, R. N. & Amaral, D. (2000). Environmental management systems: Opportunities for improved environmental and business strategy. *Environmental Quality Management*, 9(3), 1-9.
- Elkington, J. (1994). Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review*, 36(2), 90-100.
- Enz, C. & Siguaw, J. A. (1999). Best hotel environment practices. *Cornell Hotel and Restaurant Administration Quarterly*, 40(5), 72-77.
- Erdogan, N. & Baris, E. (2007). Environmental protection programs and conservation practices of hotels in Ankara, Turkey. *Tourism Management*, 28: 604-614.
- Erickson, S. L. & King, B. J. (1999). *Fundamentals of Environmental Management*. New York: John Wiley.
- Foster, S. T., Sampson, S. E. & Dunn, S. C. (2000). The impact of customer contact on environmental initiatives for service firms. *International Journal of Operations & Production Management*, 20(2), 187-203.
- Galan, M. B., Peschard, D. & Boizard, H. (2007). ISO 14001 at the farm level: analysis of five methods for evaluating the environmental impact of agricultural practices. *Journal of Environmental Management*, 82(3), 341-352.
- Gil, M. J., Jimenez, J. B. & Lorente, J. J. C. (2001). An analysis of environmental management, organisational context and performance of Spanish hotels. *The International Journal of Management Science*, 29 (6), 457-471.
- Gilley, K. M., Worrell, D. L., Davidson, W. N. & El-Jelly, A. (2000). Corporate environmental initiatives and anticipated firm performance: The differential effects of process-driven versus product-driven greening initiatives. *Journal of Management*, 26(6), 1199-1216.
- Gonzalez-Benito, J. & Gonzalez-Benito, O. (2005). An analysis of the relationship between environmental motivations and ISO 14001 certification. *British Journal of Management*, 16: 133-148.

- Goodall, B. (1995). Environmental auditing: a tool for assessing the environmental performance of tourism firms. *The Geographical Journal*, 161(1), 29-37.
- Hair, J. F., Anderson, R. E., Babin, B. J. & Black, W. C. (2010). *Multivariate data analysis: A global perspective*. New Jersey: Pearson.
- Hanna, M. D., Rocky N. W. & Johnson, P. (2000). Linking operational and environmental improvement through employee involvement. *International Journal of Operations & Production Management*, 20(2), 148-165.
- Hemenway, C. G. & Hale, G. J. (1995). Are you ready for ISO 14000. *Quality*, 34(11), 26-28.
- Hillary, R. (1999). Evaluation of study reports on the barriers, opportunities and drivers for small and medium sized enterprises in the adoption of environmental management systems. *London: Network for Environmental Management and Auditing*.
- Hillary, R. (2004). Environmental management systems and the smaller enterprise. *Journal of Cleaner Production*, 12(6): 561-569.
- Holden, A. (2000). *Environment and tourism*. New York: Routledge.
- Hutchinson, C. (1996). Integrating environmental policy with business strategy. *Long Range Planning*, 29(1), 11-23.
- ISO (2016). http://www.iso.org/iso/theiso14000family_2009.pdf (Accessed: 10.12.2016).
- Kasim, A. (2007). Corporate environmentalism in the hotel sector: Evidence of drivers and barriers in Penang, Malaysia. *Journal of Sustainable Tourism*, 15(6), 680-699.
- Kasim, A. (2009). Managerial attitudes towards environmental management among small and medium hotels in Kuala Lumpur. *Journal of Sustainable Tourism*, 17(6), 709-725.
- Kirk, D. (1995). Environmental management in hotels. *International Journal of Contemporary Hospitality Management*, 7(6), 3-8.
- Kirk, D. (1998). Attitudes to environmental management held by a group of hotel managers in Edinburgh. *International Journal of Hospitality Management*, 17(1), 33-47.
- Krut, R. & Gleckman, H. (1998). *ISO 14001: A missed opportunity for sustainable global industrial development*. London: Earthscan Publications.
- Le, Y., Hollenhorst, S., Harris, C., McLaughlin, W. & Shook, S. (2006). Environmental management: a study of Vietnamese hotels. *Annals of Tourism Research*, 33(2), 545-567.
- Lee-Mortimer, A. L. (2000). Waste not, want not. *Works Management*, 53(5), 42- 44.
- Leonidou, C. N. & Leonidou, L. C. (2010). Research into environmental marketing/ management: A bibliographic review. *European Journal of Marketing*, 45(1/2), 68-103.
- Lozano, M. & Valles, J. (2007). An analysis of the implementation of an environmental management system in a local public administration. *Journal of Environmental Management*, 82(4), 495-511.
- Maxwell, J., Rothenberg, S., Briscoe, F. & Marcus, A. (1997). Green schemes: corporate environmental strategies and their implementation. *California Management Review*, 39 (3), 118-134.
- McIntosh, R. W. & Goeldner, C. R. (1990). *Tourism: Principles, practices, philosophies*. New York: John Wiley.
- Mensah, I. (2006). Environmental management practices among hotels in the greater Accra

- region. *International Journal of Hospitality Management*, 25(3), 414-431.
- Middleton, V. T. C. & Hawkins, R. (1998). Sustainable tourism: A marketing perspective. Oxford: Butterworth- Heinemann.
- Ministry of Culture and Tourism (2016). <http://yigm.kulturturizm.gov.tr/TR,9859/tesis-istatistikleri.html> (Accessed: 10.11.2016).
- Molina-Azorin, J. F., Claver-Cortes, E., Pereira-Moliner, J. & Tan, J. J. (2009). Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry. *Journal of Cleaner Production*, 17(5), 516-524.
- Morrow, D. & Rondinelli D. (2002). Adopting corporate environmental management systems: Motivations and results of ISO 14001 and EMAS certification. *European Management Journal*, 20(2), 159-171.
- Nattrass, B. & Altmore, M. (1999). The natural step for business: Wealth, ecology and the evolutionary corporation. British Columbia: New Society Publishers.
- Peiro-Signes, A., Verma, R., Mondejar-Jimenez, J. & Vargas-Vargas, M. (2014). The impact of environmental certification on hotel guest ratings. *Cornell Hospitality Quarterly*, 55(1), 40-51.
- Pereira-Moliner, J., Claver-Cortes, E., Molina-Azorin, J. F. & Tan, J. J. (2012). Quality management, environmental management and firm performance: Direct and mediating effects in the hotel industry. *Journal of Cleaner Production*, 37, 82-92.
- Psomas, E. L., Fotopoulos, C. V. & Kafetzopoulos, D. P. (2011). Motives, difficulties and benefits in implementing the ISO 14001 environmental management system. *Management of Environmental Quality: An International Journal*, 22(4), 502-521.
- Pun, K. F., Hui, I. K., Lau, C. W., Law, H. W. & Lewis, W. G. (2002). Development of an EMS planning framework for environmental management practices. *International Journal of Quality & Reliability Management*, 19(6), 688-709.
- Quazi, H. A., Khoo, Y. K., Tan, C. M. & Wong, P. S. (2001). Motivation for ISO 14000 certification: Development of a predictive model. *The International Journal of Management Science*, 29(6), 525-542.
- Robinot, E. & Giannelloni, J. L. (2010). Do hotels' "green" attributes contribute to consumer satisfaction? *Journal of Service Marketing*, 24(2), 157-169.
- Sambasivan, M. & Fei, Y. (2008). Evaluation of critical success factors of implementation of ISO 14001 using analytic hierarchy process (AHP): A case study from Malaysia. *Journal of Cleaner Production*, 16(13), 1424-1433.
- Sayre, D. (1996). Inside ISO 14001: The competitive advantage of environmental management. Florida: CRC Press.
- Schaarsmith, J. H. (2000). ISO 14001 lowers environmental risks. *Business Insurance*, 34(28), 12-16.
- Segarra Ona, M. D. V., Peiro Signes, A., Pastor, M., Gaspar, L. & Verma, R. (2012). Does ISO environmental certification help the economic performance of hotels? Evidence from the Spanish hotel industry. *Cornell Hospitality Quarterly*, 53(2), 5-15.
- Sena da Silva, G. C. & Dumke de Medeiros, D. (2004). Environmental management in Brazilian companies. *Management of Environmental Quality: An International Journal*, 15(4), 380-

- Shrivastava, P. (1995). Environmental technologies and competitive advantage. *Strategic Management Journal*, 16(1), 183-200.
- Stipanuk, D. M. (1996). The US lodging industry and the environment: An historical view. *Cornell Hotel and Restaurant Administration Quarterly*, 37(5), 39-45.
- Trung, D. N. & Kumar, S. (2005). Resource use and waste management in Vietnam hotel industry. *Journal of Cleaner Production*, 13(2), 109-116.
- Tzschentke, N., Kirk, D. & Lynch, P. A. (2004). Reasons for going green in serviced accommodation establishments. *International Journal of Contemporary Hospitality Management*, 16(2), 116-124.
- Ustad, B. H. M. (2010). The adoption and implementation of environmental management systems in New Zealand hotels: The managers' perspective (Doctoral dissertation, Auckland University of Technology).
- Ustad, B. H. M., Liu, C. & Goodsir, W. (2010). The Manager's perspectives on the implementation of environmental management systems (EMS) in New Zealand hotels. New Zealand Tourism and Hospitality Research Conference, 24 - 26 November 2010, Auckland.
- West, G. A. & Manta, J. G. (1996). ISO 14001: An executive report: A concise summary and analysis of the new standard for environmental management. *Maryland: Government Institutes*.
- Zingale, R. & Himes, T. (1999). Environmental management systems: Making better business sense. *Industrial Heating*, 66(8), 18-34.
- Zutshi, A. & Sohal, A. (2004). Environmental management system adoption by Australasian organisations: Part 1: Reasons, benefits and impediments. *Technovation*, 24(4), 335-357.