



Establishing attributes of an environmental management system for green hotel evaluation



Teng-Yuan Hsiao^a, Chung-Ming Chuang^{b,*}, Nae-Wen Kuo^c, Sally Ming-Fong Yu^d

^a National Kaohsiung University of Hospitality and Tourism, Department of Leisure and Recreation Management, Taiwan, ROC

^b National Kaohsiung University of Hospitality and Tourism, The Graduate Institute of Travel & Tourism Management, Taiwan, ROC

^c National Taiwan Normal University, Department of Geography, Taiwan, ROC

^d National Kaohsiung University of Hospitality and Tourism, Department of Hotel Management, Taiwan, ROC

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ABSTRACT

This study establishes attributes of an environmental management system (EMS) for the hotel industry in Taiwan to create an instrument to help address green hotel auditing. Hotel EMS indicators were initially selected from ISO14000 and nine representative foreign green hotel assessment systems. The Delphi method conducted on twenty five experts with government officials, scholars and hotel managers for item modification to identify the preliminary EMS evaluation framework. An indicator selection process was employed to determine the dimensional indicators of the system. The data analysis reveals that a total of 64 indicators into ten dimensions were identified and prioritized in terms of their relative importance and feasibility. Moreover, 38 indicators are suitable for use and 18 of them should be implemented firstly in Taiwan hotel industry. The results also reveal the comparison with Taiwan government's environmental standards. Finally the EMS approach of this study provides managerial implications for government, hoteliers and consumers to improve their environmental management.

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1. Introduction

Environmental factors have gained major importance in the tourism industry (Erdogan and Baris, 2007). Environmental or sustainability policies were left to managers to resolve, and they must carry out those policies (Bohdanowicz et al., 2005). This creates significant pressure on resource and means that environmental friendliness is central to the notion of sustainable tourism. A focus on environmental factors in the tourism sector has given rise to green hotels. Environmental friendliness is critical to hotels if they are to sustain increases in tourism (Webster, 2000; Kasim, 2007). Studies suggest that the sustainable management and development of the hotel industry requires effective energy and environmental management policies (Erdogan and Baris, 2007). In Taiwan the Government's intends to double the number of tourists in a 6-year plan from 2008. An increase in hotel numbers means these, already large consumers of water and energy, are destined to make the

tourism sector even less environmental friendly. Architecture and Building Research Institute, Ministry of the Interior in 2000 report argues that average hotel energy consumption is 152.34 kWh/m³ y in Taichung area, which is higher than the regulation standard value 130 kWh/m³ y. Environmental management is therefore an issue that is ripe for attention in the Taiwan hotel industry.

Taiwan's Water Resources Agency indicates that individuals' home consumption is 300 liters per day. Since individuals' consumption is 902 liters per day, by contrast, in the hotel industry this suggests significant opportunities for savings (2001). An expanding tourism sector associates with an increase in hotel construction and a significant rise water consumption (Alexander and Kennedy, 2002; Erdogan and Baris, 2007; Tortella and Tirado, 2011). Hotel managers, therefore need to make water conservation measures integral to their plans. Electric consumption is also very significant; particularly in tourist hotels that account for 70.8% of all energy usage in the hotel sector (Hsiao et al., 2002). The CTCI Foundation,¹ a center dedicated to developing energy saving techniques, finds that the electric expenses of only 84 tourist hotels account for .32% of the total electric expenses in Taiwan (2003). By being more efficient in their use of electricity managers can readily contribute to savings that drive profitability. Lin et al. (2008) indicate that hotels

* Corresponding author at: National Kaohsiung University of Hospitality and Tourism, The Graduate Institute of Travel & Tourism Management, 81271 No.1, Songhe Rd., Xiaogang Dist., Kaohsiung City, Taiwan, ROC. Tel.: +886 953527586; fax: +886 7 8053249.

E-mail addresses: tyhsiao@mail.nkuht.edu.tw (T.-Y. Hsiao), cjoming@hotmail.com (C.-M. Chuang), niven@ntnu.edu.tw (N.-W. Kuo), sallyyu@mail.nkuht.edu.tw (S.M.-F. Yu).

¹ Formally known as China Technical Consultants, Inc. (<http://www.ctci.org.tw/ct.asp?xItem=2434&CtNode=526>).

can benefit by saving water and electricity. Their report suggests green hotels have the potential to reduce water consumption by 32 percent. The statistics, above, show that water and electric consumption in Taiwan's hotel industry are serious and means a focus on hotel environmental management is a critical issue.

Many tourists prefer destinations that practice environmental protection (Alexander and Kennedy, 2002; Lee et al., 2010). This preference translates into tourists' purchasing and booking lodgings at locations that practice environmental protection and support related local charities are practiced (Kang et al., 2012; Miller and Baloglu, 2011; Penny, 2007). This is driven by a rise in consumers' environmental awareness. Studies in Taiwan find a high public acceptance for the measures hotels take to protect the environment (Kung et al., 2001). Managers, too, are broadly supportive of implementing measures to be green, or environmentally considerate, in their hotels (Shen and Wan, 2001).

The trend in the hotel industry is to identify negative environmental impacts and to mitigate these effects by saving resources (Bohdanowicz et al., 2005; Zhang et al., 2012). Environmental management systems (EMS) are important to evaluate hotels' practices regarding environmental protection. The idea of an evaluation system for assessing green hotels is to protect the environment by minimizing the negative impact of resource consumption (Chan and Lam, 2001; Chan, 2011; Dief and Font, 2012). Hotel managers would like to target their plans and activities by implementing an EMS that meets the Government's green hotel regulatory standards (Butler, 2008). Currently, they however lack clarity about the components and operation of such a system (Kung and Lee, 2002). Moreover, choosing green hotel is not only an irreversible trend but is also perhaps an excellent way of balancing between consumption and environmental protection. In light of this, to establish a complete environmental evaluation system is a pressing matter for the hotel industry.

Accordingly, the purpose of this study is twofold. First, to propose hotel specific environmental performance standards. While some international standards are available to assess a firm's environmental performance, such as ISO 14000 and 14001, these are general formulations and so lack specificity to an industry sector, such as tourism. Second, to evaluate the appropriateness and benefits of the Taiwanese government's Regulatory Standards for Accrediting Green Hotels (RSAGH). While these standards were issued in November 2008, it was not until August 2011 that the third green hotel was built. There must be some drawbacks on applicability in this government system. In addition, while many hotels are willing to apply for RSAGH green hotel accreditation they could be deterred by the high cost of the equipment required. Installing green technology typically needs cost a lot. Studies show that one of greatest barriers to hoteliers in promoting green establishments is that environmental measures are prohibitively expensive (Bohdanowicz et al., 2005). It is important to understand the impact of standards on investments so as not to hinder the rate of green hotels' development.

Few studies consider how both hotels' physical facilities and their systems impact on the environment. In this study, ISO14000 is referred as a base from which to construct EMS indicators that are specific to the hotel sector. The study indicators are refined in consultation with 25 scholars and industry experts before determining priority for their implementation through the analysis of their importance and feasibility. So far there is a lack of systematic and scientific evaluation of RSAGH (2008 & revised in 2012). This study helps create a standard EMS for the hotel industry in Taiwan, so that hoteliers to become more efficient in implementing environmental management. Customers also can therefore be educated to have correct green concept, which is helpful to avoid the conflict with hotels toward the requirement of environmental management. The study does this by providing the government

with the means to audit the implementation of environmental protection policies at all levels of hotels' operations. And has four objectives:

- To understand the application of EMS in the hotel industry.
- To construct EMS framework indicators for green hotels.
- To identify which EMS framework indicators are suitable for use in the hotel industry in Taiwan.
- To compare with Taiwan government's 2008 RSAGH, providing managerial implications for future green hotel development.

2. ISO14000 environmental management standards (EMS)

Resource management guidelines have emerged as the means to combat the over consumption of energy and environmental degradation during the planning and execution of projects. The notion of EMS sets out to combine environmental awareness with sustainable industry development (Mori and Welch, 2008). The U.S. Environmental Protection Agency (2013) defines environmental auditing as, "a systematic, documented, periodic, and objective review of facility operations and practices related to meeting environmental requirements". EMS covers an organization in terms of its' internal division of responsibilities, policies, implementation, processes and resources. It is intended to protect the environment and to cope with the endless stream of environmental protests (Salmi, 2008). The idea of voluntary environmental auditing is at the center of the whole EMS concept, that intends to identify environmental issues and to measure the implementation status of EMS.

ISO14000, part of the European family of environmental management standards, was formulated to audit environmental protection and pollution prevention in a way that accounts for sustainable economic growth (Tseng, 1999). The implementation of ISO14000, a pollution control system, in a firm focuses on increasing the environmental awareness of its employees rather than on specifying the nature of equipment and facilities. For example, for product packaging, companies should pay attention to environmental issues in all aspects of their business from raw materials, product packaging design, production line processes, product sales, consumers' safety and post-consumption waste disposal. This voluntary approach differs from the current approach to environmental protection that relies on government regulation to carry out business management. Overall, ISO14000 exists to help organizations: first, minimize the negative affect of their operations on the environment (i.e. cause adverse changes to air, water, or land); second, comply with applicable laws, regulations and other environmentally oriented requirements and third, continuously improve their green management strategies.

3. The development of environmental auditing in the tourism industry

Holden (2000) states environmental auditing and EMS in the tourism industry should account for the impact of environmental management on the natural environment. In the tourism industry EMS is currently largely limited to environmental auditing. Environmental auditing evaluates environmental performance to identify any negative conflicts between the organization and its environment and to reveal opportunities for improvement (Goodall, 1995). Goodall (1995) argues that the benefits of environmental auditing to the tourism industry include: (1) cost savings by increasing resource efficiencies and reducing waste; (2) avoiding exposure to legal liabilities than can occur with increasing law cost by not identify environmental issues; (3) establishing a strong benchmark in environmental achievement; (4) positively

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