

ENVIRONMENTAL MANAGEMENT OPPORTUNITIES IN TOURISM INDUSTRY

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Abstract. This article presents a study of the introduction of environmental management practices and systems in the tourism industry to provide an answer to the environmentally sustainable tourism challenge. It describes the approach learned in replicating the approach to resorts around the world are now adopting environmental management systems (EMS) as a means of improving resource use efficiency, reducing operating costs, increasing staff involvement and guest awareness, and obtaining international recognition in the travel and tourism marketplace. This article examines the cost savings and performance improvements possibility at hotel properties that were among to adopt an EMS. Hotels and resorts around the world use large amounts of water, energy, chemicals, supplies, and disposable items. Because of this, small efficiency gains can lead to large cost savings and environmental performance improvements.

Keywords: environmental management, sustainable management, ISO14001, environmental management system.

1. Introduction

Tourism is a major industry that can lead to economic gains as well as to degraded environment and social infrastructure. Pristine beaches, warm climates, clean air, dramatic landscapes among others promote tourism.

Data from the World Organization of Tourism (WOT) state that the tourist industry can be considered among the most important economic activities in a world context. Travel & Tourism is one of the largest industries in the world providing a strong impetus to global economic development. In 2009, the Travel & Tourism Economy is expected to account for 9.3 % of global GDP and to generate over 210 million jobs, or 7.4 % of global employment, a number that should increase to 251.9 million by 2010. In 2008, 922 million international tourist arrivals were recorded, contributing US\$944 billion in international tourism receipts. Their benefits are not only economic, but are of great social importance, since they represent a great stimulus for the development of our service infrastructure (WOT 2009).

There is a need for increased awareness about the complex nature of tourism, and to be aware of its dangers so that new ways can be identified and tourism based on sustainable development concepts can be carried out.

A clean environment is a basic component of quality service and is thus important for the development of travel, tourism, and hotel industries. Sustainable prosperity of travel, tourism, and hotel businesses also calls for the inclusion of environmental protection components in every phase of their business venture, from the preparation and

application of site plans and business programs and policies to daily routine practices.

Tourism has the potential to destroy the available common environmental resources through overuse and poor management practices, as limited information disclosure and poor monitoring of actions encourage the perpetuation and extension of environmental problems.

Hotels constitute a key element of the organized chain of activity in the travel and tourism industry, and occupy a crucial place in concerns over environmental protection related to tourism and travel. The hotel industry, because of the nature of its functions, characteristics, and services, consumes substantial quantities of energy, water, and non-durable products. It has been estimated that most environmental impacts created by the hotel industry can be attributed to site planning and facility management; excessive consumption of local and imported non-durable goods, energy, and water; and emissions into the air, water, and soil (APAT 2002; Mensah 2004; Trung and Kumar 2005). These observations have led many interested parties, including academic researchers, to study and criticize the general policies and daily professional practices of the tourism, travel, and hotel industries, their mode of organization, the services they consume and provide, and the resulting environmental impacts.

Within the hotel sector, the areas of concern for the environment include recycling of waste, waste management, clean air, energy and water conservation, environmental health, maintenance of permits such as building permits and compliance with legislation, purchasing policy and environmental education.

Environmental management and sustainability have been recent important issues in the hospitality industry. The hotel industry, as a main sector of the hospitality industry, has benefited from environmental initiatives through improving corporate image and increasing resource and energy efficiency.

2. Tourism, sustainable development and sustainable tourism

Tourism involves the travel of people to destinations away from their usual dwelling or working places and the provision of facilities created to cater for their needs while touring (Mathieson and Wall 1982). The European Commission views tourism “as the set of activities performed by people who travel and stay in places outside their usual environment for not more than one consecutive year, for leisure, business and other purposes”. The Commission recognizes that “The central challenge for the tourism industry, its businesses and destinations, is: how can the tourism activity ... be managed in such a way as to ensure that it respects the limits of its resource base, and of those resources’ capacity to regenerate, whilst being commercially successful?” (EC 2003). Factors such as the facilitation of cross-border travel, increasing wealth and leisure time in many developed countries, and transport and facility developments are expected to drive the further growth of tourism. As an economic phenomenon, tourism may have a strong positive impact on tourist destinations. However, it also places a heavy strain on, and has the potential to destroy through overuse and unsuccessful management practices, the available common environmental resources that support tourism activities. The uneven allocation of tourist arrivals in time (seasonality) and space (tourism intensity) further aggravates this impact.

Sustainable development has been described as a new paradigm for management theory and practice. The World Commission on Environment and Development (i. e. The Brundtland Commission) defined sustainable development as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. A concrete result of the Rio meeting of the world’s leaders was the development of the publication known as Agenda 21. Subsequently, this was translated by the WTTC into Agenda 21 for the Travel and Tourism Industry. This developed priority areas for both the public and private sectors.

Sustainable tourism has been subject to diverse definitions which have been criticised as

ambiguous, vague, sectoral, too conceptual and confused with environmental issues. This lack of precision in standards or criteria in defining the level and status of sustainability has also raised serious questions about the implementation and monitoring processes of sustainable tourism development (Choi and Sirakaya 2006; Ko 2005).

Tourism based on the goal of sustainable development has several important characteristics:

1. It simultaneously addresses economic and environmental impacts, attempting “the management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems” (WTO 1994).

2. Empirical evidence suggests that the environmental performance of each organization can be potentially improved through the adoption of an environmental management system (EMS) encompassing eco-control (Schaltegger *et al.* 2003), through the establishment of a link between EMS and the level of environmental disclosure (Frost and Seamer 2002) and through the association between environmental disclosure and environmental performance generated by improved management attention and awareness (Adams, Frost 2006). The United Nations Environmental Programme (UNEP) has participated in efforts to promote the use of EMS by tourism facilities, especially hotels. Though certain efforts have been successful, UNEP recognizes that “The key remaining challenges facing the tourism industry are to promote wider implementation of environmental management, particularly in the many SMEs that form the backbone of the tourism industry, promote the involvement of local stakeholders in tourism ventures, and work with Governments and other stakeholders to improve the overall environmental quality of destinations” (UNESCO 1999).

3. Environmental management accounting can provide the foundation for gathering and using suitable information, critical for decision making, planning and control. Experts recognize that the integration of tourism with sustainable development demands, among other things, best practice information. The United Nations has identified the need for the information to be disseminated on the transfer of environmentally sound technologies in the tourism sector and the establishment of a system to efficiently monitor progress towards sustainable tourism (UNESCO 1999). To date, however, few specific tools have been identified that would help bring this transformation about.

Definitively, sustainable tourism is understood as the development of a tourist product that

is more respectful – or less harmful – of the environment, and which at the same time can offer a competitive advantage in the tourism market and ensure its long term economic viability.

In order to achieve sustainability, a wide number of stakeholders have to be involved – governments, environmental agencies, business and consumers. Governments are increasingly introducing legislation and regulation to manage our impact on the environment. In addition to international and governmental pressures for change, we are also seeing the growth of the green consumer. Hospitality businesses are subject both to the “push” of governmental pressure, for example through the “polluter pays” principle, and the “pull” of the market, as increasing numbers of consumers express a preference for green products and services. They have responded to these pressures in a variety of ways.

The forces exerting pressure on hotels to be more environmental-conscious could be summarised as government regulation, changing consumer demand, advocacy/initiatives by non-governmental organizations (NGOs) and international organisations as well as ethics by professional associations (Fig. 1).

Globally, the tourism industry is under pressure to adopt more environmentally sound practices. This arose out of concerns that tourism could and often did have negative impacts on the host communities and their environments.

Increasing environmental awareness on the part of consumers has served as pressure on hotels to adopt sound environmental practices. Tourists are becoming more discerning, seeking activities, arrangements and experiences which depend crucially on a high quality physical and cultural environment.



Fig. 1. Forces Exerting Pressure on Hotels to use Environmental tools

Furthermore, regulation of the tourism industry by governments in the form of planning restrictions, mandatory Environmental Impact Assess-

ment (EIA) and laws relating to business practice has exerted pressure on hotels to adopt sustainable environmental practices.

Another force has been exerted by both national and international NGOs and professional organisations. International organisations like the United Nations Environmental Programme (UNEP), World Tourism Organisation (WTO), World Wildlife Fund (WWF) and the World Travel and Tourism Council (WTTC) are all actively involved in ensuring environmental improvement in hotels.

However, within the hotel industry, cost savings seem to be the prime motivation for the increasing adoption of environmental management practices in hotels.

The ideas of environmental protection, conservation, resource use that accounts for future considerations, and maximum realization of the interests of the tourism industry, tourists, and local populations, remain strong.

The proponents of sustainability vehemently state that natural and tourism resources should be used and protected so that future generations will also be able to benefit from these resources. This idea is supported and promoted by national, regional, and international organizations, as well as by legal provisions and agreements. For instance, reflecting the basic idea of Agenda 21, some basic principles for sustainable and economically successful tourism have been proposed (Tosun 2001).

The principles of sustainable tourism are based on the following factors:

- efficient use of the Earth’s natural resources through conservation and management of water and energy;
- changing patterns of resource consumption;
- protection of our global commons through efficient energy use, environmentally friendly transportation, efficient land use and resource development, and protection and management of the air, land, and oceans;
- management of chemicals and wastes by prevention, reduction, and management of hazardous waste, reduction of solid wastes, reuse and recycling, and wastewater management;
- site planning, use and management;
- inclusion of staff, clients, and society in environmental issues;
- development of partnerships to promote sustainable development; and
- sustainable planning.

It is normal to expect that enterprises in the tourism sector will adopt energy-saving methods and proper disposal of solid waste only if they minimize the related expenditures; competitive (or

monopolistic) markets require cost minimization and profit maximization for an enterprise to survive. Studies in the US and Europe have mostly stated similar reasons on how to draw the attention of hotel industry to environmental protection. There is a lack of information about the level of environmental knowledge and interest of hotel managers and about the daily hotel practices related to environmental outcomes and protection.

3. Literature review

The environment has become one of the major issues facing not only the hospitality industry but also humankind, with the increasing acknowledgement that human activity is causing global climate change. In the tourism industry, the importance of the environment has long been recognized. Indeed, the concept of “sustainability” originated and developed in this sector. This is largely because much of leisure tourism is based on visitation to places with natural or manmade resources that people can enjoy.

Given the importance of this subject, there has been relatively big research into environmental management in the hospitality industry. The most prolific and influential source of information has been *Green Hotelier*, a magazine aimed at industry practitioners. Over an extended period, this publication has provided a very large number of articles, often based on case studies of highly applied “research”. Stipanuk (1996) argued that in the USA, the lodging industry responded to environmental issues long before they became “politically correct, market-opportunity driven or governmentally mandated”. He argues that this history of concern should mean that the industry will continue to care about the environment irrespective of incentives or legislative pressures. Writing at the same time, however, Brown (1996) expressed some reservations about how proactive the industry was, based on her survey of 106 hotel general managers in the UK. She based this on the failure of hotel companies to incorporate environmental measures into their management reporting and control systems.

Kirk (1998) also surveyed hotel managers, in this case in Edinburgh, and found a similar lack of action. Of 85 respondents, only 19 reported an environmental policy in operation.

Reports of the efforts and results of environmental management programs in the hospitality and tourism industry are generally confined to functional “how-to” books (such as Kirk 1998; Middleton 1998) and corporate reports publications.

There have been numerous studies of the environmental protection practices of hotels, but the majority has focused on large hotels catering to the demands of mass tourism on seashores and in popular resort areas. Inner-city hotels, and especially hotels in large cities, have generally been ignored. Thus, it is also necessary to determine the nature of the environmental policies and practices of city hotels in order to improve our knowledge of their status and their impacts and to develop and apply environmentally sound solutions.

Many researchers have viewed sustainability in purely environmental terms and accordingly developed models that often lack a management dimension or mechanisms for feedback (Choi and Sirakaya 2006; Ko 2005; Douglas 2006). These models include assessment tools such as sustainability indicators, environmental impact assessment, life cycle assessment and environmental auditing. There is however, no single tool that addresses all environmental, social and economic issues at all levels (Schianetz *et al.* 2007).

4. Sustainability in tourism industry: declarations and initiatives

Apart from the sustainable legislative frameworks instigated by individual governments, the European Community, as well as non-government organizations, is primarily responsible for the development and articulation of the sustainability initiatives and declarations within this region.

The European Union began to develop environmental policy and action plans in 1972. Since then, minimum standards and legal infrastructures have been established for waste recycling and water and air pollution. Environmental issues are included in the Union’s programs related to the Amsterdam Protocol because the existing legal provisions were found to be insufficient for the prevention of environmental pollution.

Firstly, at the European Community level, the Fifth Action Program, “Towards Sustainability,” targets five main sectors, one of which is tourism. The Fifth Environmental Action Program was established for the 1993–2000 period. Very briefly, the underlying concept of the Community’s program is that of “shared responsibility” based on three strategies (National Centre for Technology in Education 2009):

- the reporting of the pressures and effects on the environment from tourism practices;
- an emphasis on environmental-awareness-led campaigns; and

– the promotion of the implementation of innovative good practices in the field of sustainable tourism development.

The latter principles also have been recognized in the “Green Paper on Tourism”. This paper focused explicitly on the creation of a positive relationship between economy and ecology through: tourism well-being; protection of resources; higher growth and more competitive organizations; and assessment of the costs surrounding the use of tourism resources.

The inclusion of an environmental dimension in all work and every program carried out in the European Union became mandatory since the Fifth Environmental Action Program covered the industrial, energy, tourism, transportation, and agricultural sectors.

Sustainable tourism development and higher quality standards have become a stated goal and specific measures have been taken to promote them. Yet, most of these measures aim at, and can be adopted particularly by, the large hotel chains, while no small hotels have voluntarily adopted a certified environmental management system (EMS), despite the heavy subsidization of relevant initiatives.

5. Environmental tools using in hotel industry

Today, various types of environmental initiatives exist. However, there are no common standards for hotels, so these initiatives are being carried out by the hotels themselves, NGOs, International Organisations and government agencies. Such initiatives have been in the form of publications, certification, awards, ecolabels and codes of conduct.

Internationally, the most common formal environmental instruments applied by the hotel industry are codes of conduct, best environmental practices, eco-labels, environmental management systems (EMSs) and environmental performance indicators (Table 1).

These instruments are relatively new. In the 1980s and especially in the 1990s, there appeared a great variety of environmental codes of conduct promoted by or directed to the tourism sector. Beyond these declarations of good intentions, the hotel sector started in the 1990s to develop initiatives to promote the incorporation of best environmental practices into the business activity. Also in the decade of the 1990s, diverse tourism eco-label systems and EMS standards were developed in order to be applied by tourism enterprises, particularly hotel companies. More recently, in the late 1990s, some initiatives have emerged to promote the use of environmental indicators at the corporate level.

Table 1. Voluntary environmental tools applied in the hotel industry

Policy tool	Aim	Examples
Codes of conduct	To show commitment with basic principles of an environmental (and sustainable) sound company performance.	Agenda 21 for the Travel and Tourism Industry, WTTC Environmental Guidelines
Best environmental practices	To take action measures in order to improve the environmental performance of the company	Actions of energy saving, water saving, waste management.
Eco-labels	To ensure the environmental performance of the company with regard to certain aspects, and offer the corresponding information to the consumer.	Green Globe 21, The European Eco-Label, Green Key, national or regional labelling schemes
Environmental management systems (EMS)	To manage the environmental performance of the company and improve it continuously according to a planned strategy.	International standard ISO 14001, European Regulation EMAS
Environmental performance indicators	To assess and communicate the environmental performance of the company	Total energy consumption, total water consumption, waste production per type.

Many hotel chains and individual hotels are applying some of the considered voluntary instruments, but it is difficult to assess the number of hotels implementing each instrument.

6. Hotel environmental management system

One of the most critical elements of becoming an environmentally friendly hotel is the adoption of a new culture that extends throughout the hotel organization, and between the hotel and its guest, local community, and even its vendors. It calls an environmental management system (EMS).

An EMS is defined as “a comprehensive organizational approach designed to achieve environmental care in all aspects of operations”. The International Standards Organization (ISO) 14000 series is an international standard for EMS. The World Travel and Tourism Council's GREEN GLOBE international certification has developed

an EMS standard specifically for the travel and tourism industry.

6.1. Environmental management systems

EMSs emerged in the 1990s as one of the most effective tools to achieve sustainable development. The best known among them are ISO 14001, which was issued by the International Organization for Standardization (ISO) in September 1996, and the Eco-Management and Auditing Scheme (EMAS), which was adopted in June 1993 by the Council of European Communities as "Regulation 1836/93".

The International Organisation for Standardisation (ISO) is a non-governmental organisation established in 1947 to develop worldwide standards to improve international communication and collaboration, and to facilitate the international exchange of goods and services. In addition to the ISO 14000 EMS standards, the organisation has developed ISO 9000 (i.e., standard for assuring quality) and ISO 22000 (i.e., standard for assuring food safety), etc. The ISO 14000 EMS standards consist of 20 environmental standards that are voluntary and process focused. The series contains numerous guidelines pertaining to various environmental issues which include:

- ISO 14001 – EMS: Specifications with guidance for use;
- ISO 14004 – EMS: General guidelines on principles, systems, and supporting techniques;
- ISO 14010 – Guidelines for environmental auditing: General principles;
- ISO 14011 – Guidelines for environmental auditing: Audit procedures;
- ISO 14012 – Guidelines for environmental auditing: Qualification criteria for environmental auditors;
- ISO 14024 – Environmental labelling;
- ISO 14040 – Life cycle assessment;
- ISO 14060 – Guide for the inclusion of environmental aspects in product standards.

Of the above series, ISO 14001 is the only standard against which an organisation can become certified for EMS. The ISO 14001 EMS mainly consists of five core principles which are:

- 1.Environmental policy;
- 2.Planning;
- 3.Implementation and operation;
- 4.Checking and corrective action; and
- 5.Management review (ISO 2006).

Meeting ISO 14001 or EMAS standards attempts to ensure that a firm adopting and implementing an EMS complies with all relevant environmental legislation, develops an effective and

systematic structure to implement environmental programmes, achieves continuous improvement in environmental performance, improves employee environmental awareness and efficiency, enhances its business image and relationships with consumer groups and increases employee motivation.

6.2. EMS in hotel industry

The use of resources (e.g. water, energy, materials, chemicals, etc.) and pollution generation produce the main environmental impacts of the hotel industry. Therefore indicators of sustainability for the hotel industry should include indexes of the consumption of these resources. In addition, resource use constitute a significant portion of hotel operating costs, thus this type of indicators allow hotels to closely monitor expenses associated with the inefficient use of resources, and take corrective measures when necessary.

Environmental management is a systematic approach to finding practical ways for saving water, energy, and materials, and reducing negative environmental impacts. A proactive environmental management program is a three win proposition because it can help a property save money, get recognized for environmental leadership, and preserve and protect unique destinations.

1.Save money. Environmental management reduces operating costs and improves profitability. Most hotels can quickly achieve substantial cost savings with a modest investment in simple, low-cost technologies and practices, and has realized an annual return on investment (ROI) of 100 %.

2.Get recognized for environmental leadership. Adopting environmental best practices can help hotel stand out from the competition and be recognized through certification programs, awards, tour operator programs, and other special promotions. Getting recognized for your commitment to environmental management can enhance your property's image with environmentally conscious guests and tour operators.

3.Protect and preserve destinations. Each year millions of tourists go rest to experience the natural and cultural treasures that the region has to offer. The hospitality industry, while a critical engine for economic growth, also puts a tremendous strain on the natural "assets" such as beaches, reefs, rivers, and forests.

Identifying opportunities for cost savings and improved environmental management is best achieved through an all-encompassing and step-by-step process that addresses all aspects of hotel operations and facilities.

The principal components of an EMS, as defined by GREEN GLOBE, include the following: an environmental policy that clearly communicates the organization's commitment to maintaining the social, cultural and physical environment; an action plan to guide the property's actions and expenditure of resources; the implementation or operations of the EMS that encompasses all of the property's actions relative to the environment, including awareness and training, staff procedures, incentive programs, and community outreach among other things; corrective action or monitoring to ensure that the EMS performs as expected, allowing for responsive actions to capture things such as leaking toilets and chemical spills and review, typically by senior management, to determine how to improve the EMS and the level of compliance with the hotel's environmental policy.

Although improving the efficiency of hotel facilities and equipment is essential to becoming an environmentally-friendly hotel, "engineering fixes" alone are only part of the puzzle. Hotel staff is the other part. Some of the most significant water, energy and materials savings are achieved not by installing new equipment, but by improving standard operating procedures and training and motivating staff to use resources efficiently. Most of these measures have a very low implementation cost and a payback period of close to zero!

An EMS is a framework that helps management assign responsibilities, motivate staff, implement best practices, and monitor performance. It typically involves a set of activities, led by a core group of staff that includes meetings, planning, training, incentive programs, utility monitoring, and reporting progress.

Certification programs can be thought of as an official "stamp of approval" of environmental program. These programs require that hotel has a third party (an accredited "auditor") come in and evaluate it against an established set of criteria. Getting certified can help current hotel stand out to environmentally-conscious travellers by "proving" to them that you are as green as you say you are. Because today's travellers and tour operators are increasingly aware of environmental issues, this could emerge as an important competitive advantage in today's fast-moving marketplace.

6.3. Ecolabelling

The lodging industry is a major consumer of resources and products. Consumption includes land, construction materials (carpet, paint and wood), fixtures and furnishings, cleaning supplies, food, and equipment (air conditioners, computers, elevators, furnaces). Then there is the daily consumption of water and power. Hotels are active 24

hours a day, seven days a week, year in and year out, using water and power throughout the day for general operations, cleaning, and guest use. With this massive ongoing use of products and resources there is a need for environmental action to preserve the environment and conserve resources for future generations.

Environmental action needs to be with purchased products and daily operations. The ideal is the products brought into the hotel operation will have been produced with environmental care, both at the source and for the guests' health. And the resources consumed daily like water, power, newspapers, and cleaning supplies, are minimized to reduce the strain on the environment. Just as consumers want to buy products according to their environmental sensitivities, they also want to buy their hotel "product" and experience according to their preferences and needs; they want to choose hotels that have an environmental awareness.

Table 2. Eco-labels of different countries

Ecolabel	Region or Country
Green Globe 21	international eco-label of environmental management in tourism
European Flower	the EU eco-label
Blue Flag	international eco-label for beaches and marinas
Den Groene Noegle	eco-label for accommodation in Denmark, Sweden, Greenland and Estonia
Hiumaa Green Label	eco-label for accommodation and catering enterprises in Hiumaa, Estonia
Destination 21	eco-label for tourist destinations in Denmark
Milieubarometer	eco-label for camping sites, holiday parks and youth hostels in Netherlands
Ekoturism Föreningen	eco-label for tourism products in Sweden
Nordic Swan	eco-label for hotels in Sweden and Norway
Das Österreichische Umweltzeichen für Tourismusbetriebe	eco-label for accommodation and restaurants in Austria
EcoLabel für luxemburger Tourismusbetriebe	eco-label for accommodation in Luxembourg
La Clef Verte	eco-label for camping sites in France
The Green Tourism Business Scheme	eco-label for tourism establishments in Scotland
Legambiente Turismo	eco-label for hotels and camping sites in Italy

There are several voluntary regional, national and international eco-labeling programs for the hotel industry (Table 2).

Ecolabels have also been used to encourage the development of less-damaging and environmentally friendly hotels as well as to educate the customer. Ecolabelling started in Europe in 1985 with Blue flag however; the concept has been adopted by the tourism and hospitality industry to promote a clean and green image.

Most of the ecolabels therefore provide certification programmes. Green Globe 21 for instance uses an Environmental Management System (EMS) as its ecolabel criteria. It has developed benchmarks specific to hotels.

7. Barriers of environmental tool implementation

Most operational decisions of all companies have an environmental cost. This cost can take the form of either an increased resource consumption–low efficiency pattern or that of an opportunity cost from lost sales and profits.

When examining the issues related to the implementation of ISO 14001 EMS in Singapore, Quazi (1999) indicated that the implementation of EMS can be hindered by some factors such as complexity of ISO standards; legal ramifications; lack of incentives to implement; lack of management commitment; lack of total employee involvement; cost of implementation; and unclear responsibilities of employees. Post and Altman (1994) also stated that organisational change agents encounter significant barriers in trying to implement EMS. The barriers are mainly categorised into (1) industry barriers and (2) organisational barriers. Industry barriers include technical information, capital costs, configuration of current operations, competitive pressures and industry regulations. Organisational barriers include factors such as employee attitudes, poor communication, past practices and inadequate top management leadership.

In reviewing the literature, some internal and external barriers to the adoption of EMS developed by Hillary (2004) were also identified. The barriers extensively covered in 28 study reports in Hillary's previous review study (1999) include 48 factors. The 48 factors were mainly categorised into internal and external barriers. Internal barriers are resources; understanding and perception; implementation; attitudes and company culture. External barriers are certifiers/verifiers; economics; institutional weaknesses; and support and guidance. Hillary's study provides a detailed list of barriers to adopting and implementing EMS.

Table 3. Barriers of environmental tool implementation

Barrier	Text
Drivers	<ul style="list-style-type: none"> – Public and/or official recognition of environmental commitment – Envisioned cost savings – Pressure of customers and tour operators – Personal awareness of hotel manager – Potential improvement of internal management system
Success and failure factors	<ul style="list-style-type: none"> – Knowledge about instrument existence – Know-how about instrument application – Collaboration of customers, public authorities, suppliers and subcontractors – Interest of customers and tour operators – Involvement of hotel management and staff – Change of routines and management style
Costs	<ul style="list-style-type: none"> – Variable investments and human resources efforts

It has to be noted that the barriers would likely be removed after the hotels have started implementing a formal EMS. This may be because of the continuous commitment of management in terms of resources allocation and the experience of claimed benefits from the systems. Understanding the reasons behind this may require more in-depth investigation; however, this suggests that adopting and implementing a formal EMS is probably worthwhile because of many claimed benefits such as costsavings, reassurance of regulatory compliance, improvement of corporate image, operational efficiency, etc.

8. Conclusions

The growing interest of tourist in the environmental area has been promoting ecotourism, and with it the search to develop environmental and economically feasible policies based on sustainability. Faced with these new challenges, the Environmental Performance Indicators are presented as an ancillary measurement factor in the environmental decision making of organizations. Thus, hotels have been confronted with the importance of accompanying these tendencies, which are a key factor for competition in this new century.

Hotels and resorts around the world use large amounts of water, energy, chemicals, supplies, and disposable items. They also generate lots of waste such as wastewater and solid waste. Because of this, small efficiency gains can lead to large cost savings and environmental performance improvements.

The hotel entrepreneur should keep in mind the importance of cost reduction, with services of

high quality, seeking sustainability of its business, mainly through the evaluation of its overall performance. Eco-tourism comes into this context as a tool for sustainable development.

In effect, hotels are gradually responding to concerns for environmental sustainability on the part of customers, international organisations, NGOs, and governments. However, environmental management practices have often been geared towards saving costs on energy and water. There have been diverse initiatives by hotels, international organisations, NGOs and trade associations in the form of ecolabelling, certification, publications and awards. These initiatives have created greater awareness of environmental management in hotels around the world. It is therefore imperative for hotels which have not embraced the concept to take a second look since environmental responsibility does not only safeguard the environment on which hotels depend but also insulate them from legal tussles, saves costs, promotes customer loyalty and enhances the reputation of hotels.

An effective EMS can help a hotel assure its guests of its commitment to environmental management as partners in programs such as recycling, linen and towel reuse, etc. It can set specific and realistic performance objectives and targets, and allow the hotel to monitor to see if the objectives and targets are being met.

Most importantly, an EMS can improve efficiency and reduce operating costs. In fact, the savings alone should be sufficient for any hotel to commit to implementing an EMS.

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