

Hotel Companies' Environmental Awareness and Commitment: A content analysis of their web pages.

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Abstract:

Purpose – The purpose of this paper is to analyze the environmental management policies and practices of the top 50 hotel companies as disclosed on their corporate web sites.

Design/methodology/approach – This study employed content analysis to review the web sites of the top 50 hotel companies as defined herein.

Findings – Only 46 per cent of the selected hotel companies used web pages to post information related to environmental issues on their public web sites. The web pages of Wyndham, IHG, Accor, Whitbread, Hyatt, Rezidor, Sol Melia, TUI, and Scandic featured more revealing environmental information than that posted by other companies, which indicated their environmental commitment and engagement. The results of content analysis identified 12 major environmental focus areas in which the sample hotel companies engaged.

Research limitations/implications – The findings on environmental policies and practices are limited to the environmental information featured on the web sites of the top 50 hotel companies. Some of these companies may have established environmental policies or initiated environmental programs not disseminated on their web sites. In addition, web page information can be changed at any time, and the findings of this study are based upon a snapshot of the web sites as of March 2010.

Practical implications – This study establishes a benchmark of the dissemination of environmental information on the internet by leading hotels, and provides a preliminary picture of environmental initiatives and engagement among these top hotel companies. The information generated from this study can serve as a guide for hotels that would like to engage in an environmental management program. This study also provides a source of information for hotels

that would like to develop environmental web sites to demonstrate their environmental commitment to their stakeholders.

Originality/value – Information concerning the content of environmental information disseminated on the web sites of large hotel companies is sparse. Consequently, this study aims to provide a snapshot of where the hotel industry is with regard to on-line environmental disclosure and related environmental policies and practices.

Keywords: hotels | hotel web sites | web sites | environmental management | environmental sustainability | environmental reporting | hospitality management

Article:

1. Introduction

In recent decades, the need for sustainability has assumed increasing importance on the environmental agendas of nations around the world. This concern has been highlighted by global meetings organized by the United Nations, such as the 1992 Earth Summit in Rio de Janeiro and the 2009 Climate Change Summit in Copenhagen. According to *Our Common Future*, reported by the Brundtland Commission (formerly named the World Commission on Environment and Development) (World Commission on Environment and Development, 1987, p. 8), “sustainability” is defined as an effort “to meet the needs of the present without compromising the ability of future operations to meet their own needs.” The ultimate goal of sustainability is to balance the interests of economic development, social/cultural well being, and the appropriate deployment of environmental resources (Elkington, 1998). While the world is paying increasing attention to such issues as growing populations, rising social inequality, poverty, loss of biodiversity, and climate change, corporations that operate in, and profit from, society are gaining control over much of the world's resources. Consequently, they are expected to play a greater role in furthering the overall welfare of society (Carroll, 1999; Juholin, 2004). Increasing accountability is being brought to bear on corporations, which are expected to recognize their social and environmental responsibilities toward society and adjust their business practices accordingly to improve the sustainability of their operations (Griffin and Prakash, 2010; McIntosh et al., 2003).

There is increasing demand for corporations not only to follow environmentally conscious principles in their daily operations, but also to publicly report on their social and environmental performance and financial outcomes (Jose and Lee, 2007). Studies in corporate reporting indicate that stakeholders have considerable interest in social and environmental performance information (Dickinson et al., 2008; Dodds and Kuehnel, 2010; Isenmann et al., 2007; Rikhardsson et al., 2002). Some countries, including Japan, Denmark, The Netherlands, and New Zealand, require companies to disclose their corporate environmental information (Jose and Lee, 2007; Kolk,

2003). With the advances in internet technology and the increasing numbers of internet users, corporate web sites have become important mechanisms for communicating a corporation's environmental goals (Jones et al., 1998; KPMG, 2009; Marken, 1998; Paul, 2008; Rikhardsson et al., 2002). Stakeholders such as employees, investors, suppliers, resellers, media, community, special interest groups, and government can learn about a firm's commitment to environmental practices through internet information in real time.

The theme of sustainable development has continued to receive attention in all fields (Marin and Jafari, 2002). The tourism industry is no exception. According to the annual report of the World Travel and Tourism Council (2010), the tourism industry generated more than 235 million jobs and contributed over 9 percent of the global gross domestic product – a level of production that has had a considerable impact on economic, social, and environmental conditions globally. The hotel industry, as a significant sector of the tourism industry, also plays a major role in contributing to environmental sustainability. For example, the operations of a hotel require water, heating, cooling, lighting, a laundry system, and appliances, all of which have a significant impact on the environment. On the other hand, hotels, especially resort hotels, rely upon the natural environment to attract tourists and to increase their profits (Hassan, 2000; Kasima, 2006; Wahab and Pigram, 1997). The hotel industry has a compelling reason to preserve the local environment and to contribute to the local community. A survey by Deloitte's Tourism, Hospitality, and Leisure research group in 2007 found that 38 percent of the business travelers they interviewed had taken steps to determine whether a hotel was “green” (Deloitte Tourism, Hospitality, and Leisure, 2008). More customers have expectations related to sustainability when travelling. The hotel industry must be aware of this trend if it wants to appeal to this market segment. Studies also suggest that an environmentally friendly hotel can gain a competitive advantage and otherwise benefit from reducing costs, cultivating a positive image, increasing employee loyalty, and retaining customers (Claver-Cort'es et al., 2007; Graci and Dodds, 2008; Newman and Breeden, 1992; Tzschentke et al., 2004). All of the above reasons provide strong economic incentives for hotels to engage in environmental management programs and to communicate their environmental engagement to their stakeholders quickly and effectively. The most logical way to do this is via the internet.

2. Purpose of the study

In response to the demands of society and environmentally conscious stakeholders, several large hotel companies have disclosed their environmental policies or mission statements on their company web sites (Courtland, 2010). The web sites of some of the environmentally proactive hotel firms also include useful information about embedding environmental practices in their

operations. Such information could be a useful resource for hotels that would like to move toward environmental sustainability.

Studies in corporate internet environmental reporting are well documented in the area of general business; however, very few studies have described the use of the internet to communicate environmental practices to the public, specifically in the context of the hotel industry. Therefore, the purpose of this study is to discover the extent to which leading hotel companies communicate their environmental policies and practices to the public on their corporate web sites. More specifically, this study analyzes the environmentally related content of the web pages of such hotel companies especially with regard to the following areas:

- “Environment” or “Sustainability” as a heading on the hotel company's web site;
- an environmental policy or strategy statement;
- initiatives of specific environmental programs;
- environmental control measures and audits;
- environmental or sustainability report documentation; and
- environmental achievement recognition.

3. Environmental management and the hotel industry

Concepts such as “ecological preservation” and “environmental protection” have been recognized and developed within the tourism industry (Edgell, 2006). The tourism industry's focus on environmental issues is rooted in its relevance to natural resources and destination management (Honey, 1999). In 1997, the United Nations' Conference on Environment and Development introduced a program called Agenda 21, one chapter of which addresses sustainable tourism and serves as a comprehensive blueprint for action to be taken by the tourism industry globally (Division for Sustainable Development, 1997). Hotels, as a sector of the tourism industry, have been included in the action plan and have become the object of increasing attention in the context of environmental management due to their impact on the environment with regard to resource consumption. The American Hotel and Lodging Association (AH&LA) has been directing the attention of the US lodging industry to the environment since 1970 (Stipanuk, 1996). In 1993, the Prince of Wales International Business Forum launched the

International Hotels Environmental Initiative (IHEI), which provided hotels with action guidelines to help them respond to environmental issues (International Hotels Environment Initiative, 1996). This initiative was soon followed by the Asian Pacific Hotels Environment Initiative in 1994, which consisted of 16 hotel groups in the Asia Pacific Rim, and was formed to respond to the call to address environmental issues (Chan and Lam, 2001). These initiatives demonstrated the hotel industry's interest in environmental stewardship.

The hotel industry's motivation in environmental issues originated from a cost-benefit perspective (Stipanuk and Ninemeier, 1996). The central focus of environmental practices has been on designing new properties and minimizing the consumption of materials in construction. The energy crisis of 1973 diverted the hotel industry's attention to issues related to energy conservation. Increasing environmental consciousness also inspired hotels to take proactive actions to reduce the negative impact of hotel operations on the environment through better management. Cooper (1998, p. 112) defined environmental management as “the processes and practices introduced by an organization for reducing, eliminating, and ideally, preventing negative environmental impacts arising from its undertaking.” In line with the concept of environmental management, the environmental management system (EMS) was developed as a management tool to effectively deal with environmental issues arising from business operations. Unlike government regulations that impose external requirements on organizations, EMS arises from within an organization, and consists of a voluntary self-regulatory structure (Coglianese and Nash, 2001). EMS is an approach an organization undertakes to protect, enhance, or reduce its impact on the environment by setting objectives, measuring targets, developing programs and activities, auditing, and evaluation (Faulk, 2000; Hunter and Green, 1995; Middleton and Hawkins, 1998). Most EMS plans involve implementing a written environmental policy, educating employees about environmental concerns, conducting internal environmental audits, and developing internal environmental performance indicators and goals (Chan, 2009; Chan and Hawkins, 2010; Coglianese and Nash, 2001; Hilson and Naye, 2002; Savely et al., 2007). One of the most widely used voluntary environmental initiatives is the ISO 14001, an international environmental management standard that offers a systematic approach to compliance and continual improvement. It is applicable to a variety of organizations, such as service providers, manufacturers, and government agencies (ISO, 2009a).

Environmental issues the hotel industry is particularly concerned about include recycling of waste, waste management, clean air, energy and water conservation, environmental health, building permits, compliance with legislation and regulations, purchasing, and environmental education (Mensah, 2006). The International Hotels Environment Initiative (1996) described the elements of an environmental program: having a clear environmental policy; designating a staff or team to be in charge of environmental management; creating an implementation plan to

reduce the excessive consumption of goods, energy and water, and to reduce emissions; having a plan to raise environmental awareness among staff and customers; seeking the support of business partners by providing environmentally friendly materials; participating in local community activities, such as donating outdated products to the community, joining environmental organizations and conducting research, seeking published information on environmental matters, and having a plan to audit environmental performances. The AH&LA web site's Green Resource Center provides 11 guidelines for hotels to go green. These encompass the establishment of an environmental committee at each property, energy saving programs, and recycle-reuse-reduce programs (AH&LA, n.d.).

Many guidelines and legal restrictions are in place, but actual environmental practices have to be examined to establish how many of the guidelines and directives need to be applied. Enz and Siguaw (1999) examined the environmental practices of four environmental champions (the Colony Hotel, the Hotel Bel Air, the Hyatt Regency Chicago, and the Hyatt Regency Scottsdale) selected by the Cornell University's School of Hotel Administration. They found that each focused on natural-resource conservation, education, and community involvement. Each created new management positions (e.g. recycling manager, director of environmental programs) or established special committees (e.g. Green Team, Guardians of the Grounds) to ensure the effective implementation of their environmental programs. These top-practicing hotels indicated that their environmental management programs led to cost savings, operating efficiencies, and excellent marketing opportunities. Scanlon (2007) found that hotel and resort owners who did not understand the benefits of environmental management practices could hinder the implementation of such practices, as well as a systemized measurement and documentation of utility consumption rates and costs. The study found that more education was needed to increase hotel and resort owners' awareness of environmental management programs.

The hotel industry seems to lag behind environmentally sensitive sectors such as electricity/utility companies in implementing environmental efforts. Based on the Tomorrow's Value Rating of the world's ten largest hotel groups, it is apparent that most of them are only just beginning to address the wide range of social and environmental challenges confronting the hotel sector (Two Tomorrows, 2009). A 2006 study by PricewaterhouseCoopers of 14 European hotel groups found that, while most hotel companies had some environmental policies, few had made any link between these activities and business strategies (Manson, 2006; PwC, 2006). The hotel industry still has a long way to go in terms of environmental endeavors.

4. Corporate web sites and environmental communication

Corporations can benefit from reporting their environmental performance, for example, by satisfying the needs of the stakeholders, enhancing their image by demonstrating environmental progress, and attracting potential employees who are environmentally friendly (Jones et al., 1999; Jose and Lee, 2007). The environmental information disseminated on web sites can be used to educate employees and the public (Paul, 2008). Studies show an increase in the number of companies providing environmental information (Kolk, 2003; KPMG, 2009; Peck and Sinding, 2003). Companies have used various communication media (including newspapers, posters, CD-ROMs, and paper copies of annual reports) to release environmental information to the public (Jones et al., 1998). Of all of the media, the internet is fast becoming the most popular because it offers an exciting, interactive, and proactive means of making company environmental information available to a diverse audience quickly at little cost (Jose and Lee, 2007; Jones et al., 1998; Marken, 1998; Rikhardsson et al., 2002; SustainAbility, 1999). Corporate web sites are now a popular means of distributing critical corporate communications, such as mission statements, annual reports, press releases, and consumer information (Groschl, 2011; Hynes and Janson, 2007; Williams, 2008). To respond to the public's growing demands for environmental responsibility and accountability, corporate web sites are reporting communications on environmental commitment, objectives, and performance to a diverse set of stakeholders (Adams and Frost, 2006; Dickinson et al., 2008; Line et al., 2002; Rikhardsson et al., 2002). A comparison between the 2001 and the 1999 Benchmark Survey conducted by CSR Network Limited indicated that the use of the internet to report on environmental or social issues increased from 63 percent to 65 percent among the 100 largest firms listed in the Fortune Global 2000 (Line et al., 2002). Rikhardsson et al.'s (2002) study on global Fortune 500 companies also found that a majority of companies used the internet for environmental and social reporting.

Studies analyzing the environmental content of corporate web sites were documented among large global corporations, such as global Fortune 500 companies, Fortune 200 companies, or the global 100 Most Sustainable Corporations (Jose and Lee, 2007; Jones et al., 1999; Kolk, 2003; Paul, 2008; Rikhardsson et al., 2002). Some of the studies focused on the content of the online environmental reporting (Jose and Lee, 2007). Others focused on the utilization and design of the environmental web sites, such as navigation, graphic design, hyperlinks, and accessibility (Jones et al., 1999). These studies report many common denominators:

- increased motivation to report environmental information driven more by accountability than by compliance with laws and regulations;
- percent of the *Fortune* Global 200 and *Fortune* Global 500 companies had web sites with environmental information; and

- commonly reported information regarding environmental policies, stakeholder relationships, resource consumption (energy, materials, water), emissions (water, air, waste), product performance, external certifications (such as ISO 14000, Eco-Management and Audit Scheme (EMAS)), environmental controls, environmental leadership activities, and annual environmental reports.

Hotel web sites play an important role in disseminating information. They are used as an online channel to inform customers about services and products and also as an electronic platform to enhance profitability (Chung and Law, 2003). Previous studies on hotel web sites have focused on the functionality of business transactions and e-marketing (Bai et al., 2006; Murphy et al., 2006; Schmidt et al., 2008; Zafiroopoulos et al., 2006), while few studies have analyzed hotel corporate environmental communications, either online or through other means. Bohdanowicz's (2007) case study details the development, incorporation, and operation of the Hilton's Environmental Reporting (HER) system, which monitors members' resource consumption and generates data for the purpose of environmental management. The Hilton uses information reported by the HER system as evidence of its corporate social responsibility. A study by Holcomb et al. (2007) of the corporate social responsibility of hotel companies, found that the environmental category was the least reported of five social responsibility categories (community, environment, marketplace, vision and values, and workforce). The study's findings were based on reviews of hotel companies' web sites, annual reports, and corporate social responsibility reports available on the internet.

5. Research methods

5.1 Samples

This study examined the web site of the top 50 hotel firms listed in *Hotels* (2009), based on the number of their hotel units. These leading hotel companies, which have a combined global presence of 45,245 hotel units, were chosen because of their size and representation in many countries. These hotel groups have a huge impact on the environments in which they operate. Previous studies indicate that large multinational corporations are more likely to focus on environmental and social issues to ensure positive brand image (Bohdanowicz, 2005; Kasima, 2004). This study employs content analysis to review the web page content of the targeted hotel companies, specifically the text related to their environmental policies and practices. Table I presents the names, number of rooms, and geographical locations of these top companies.

5.2 Procedure for conducting content analysis

Content analysis is a technique that facilitates the systematic and objective identification and categorization of communication themes or characteristics. Categories were identified through this technique (Weber, 1985). This study employed conceptual analysis by identifying such concepts as coding criteria, and then quantified and tallied their presence in the chosen texts by following the coding protocol recommended by Stemler (2001). “Yes” and “No” were used to code the presence or absence of the coding criteria, respectively. For example, one of the coding criteria relates to the presence of environmental policy. The coders reviewed the company's web pages and searched for related words such as “environmental policy,” “environmental values,” “environmental mission,” “environmental goal,” or texts pertaining to any environmental statement. Two coders, who had undergone two training sessions, analyzed the content of web pages based upon the pre-set coding criteria. In the first training session, the coders learned the coding protocol. Five sampled hotel web sites were selected for a pretest based upon the complexity of the content and potential difficulties. The coders coded the selected web sites and discussed any issues and concerns. In the second training session, the coders reviewed discrepancies from the initial coding, discussed problem areas, and received clarifications from the researcher. The researcher revised the coding criteria and added a few items based on the pretest. A group consensus procedure was adopted to resolve inconsistencies. To ensure the reliability of the analysis, the two coders conducted the coding separately. Cohen's Kappa for inter-rater reliability was calculated to assess inter-rater reliability. Kappa is a function of the ratio of agreements to disagreements in relation to expected frequencies. It is considered a more robust measure than a simple percent agreement calculation because it accounts for chance agreements (Cohen, 1960, 1968). The inter-rater reliability rate was 0.92, which exceeds the acceptable level of 0.70 and indicates good reliability.

5.3 Coding criteria

To guide environmental practices, corporations use several environmental management standards such as ISO 14001; the European Union's EMAS; the CERES Report from the Coalition for Environmentally Responsible Economics (CERES); the Global Reporting Initiative (GRI); and the ICC Business Charter for Sustainable Development (ICC) (Buchholz, 1998; Jose and Lee, 2007; Skillius and Wennberg, 1998). Of all these standards, ISO 14001 is the most widely used environmental management system, with more than 188,815 organizations certified in 155 countries (ISO, 2009b). Therefore, this study used the ISO 14001 as a framework for the coding indicators in assessing the environmental policies and efforts of the sampled hotel companies. ISO 14001 consists of five components to develop an environmental management system. It

starts with establishing an environmental policy, followed by planning, implementation, measurement and evaluation, and completed by continuous review and improvement.

Based on the ISO 14001 Environmental Management System, the following coding indicators were developed:

- Is “Environment” or “Sustainability” a heading on the company's web site home page?
- Does the web site have an environmental policy or strategy statement (ISO 14001: Policy)?
- Does the web site provide information regarding the initiatives of specific environmental programs (ISO 14001: Planning and Implementation)?
- Does the web site provide information indicating that the hotel company monitors and tracks the progress of its environmental programs (ISO 14001: Measure and Evaluate)?
- Does the web site include the company's environmental reports or sustainability reports (ISO 14001: Measure and Evaluate)?
- Does the web site provide information regarding whether the company has received environmental awards?

To evaluate the areas of environmental endeavor by the top hotel companies, the author reviewed the literature regarding environmental management and the best practices in hotel environment and identified a list of analysis criteria (AH&LA, n.d.; Bohdanowicz et al., 2005; Chan, 2009; Division for Sustainable Development, 1997; Enz and Siguaw, 1999; Houdre, 2008; International Hotels Environment Initiative, 1996; Kirk, 1995; Mensah, 2006). The environmental components include:

- energy efficiency;
- water conservation;
- waste management;
- carbon footprint reduction;
- bio-diversity/eco-system;
- noise pollution reduction;
- green building design and construction;

- ecological food;
- environmental education (employees and customers);
- green purchase and supply chain;
- environmental partnership; and
- guest room air quality.

6. Results

Of the 50 sampled hotel companies, 27 are based in North America (22 in the USA, three in Canada, and two in Mexico), 16 are based in Europe, six in Asia, and one in Africa. The results show that 23 of the companies (46 percent) included environmental-related information, such as their environmental policies and practices on their public web sites (see Table I). This percentage is lower than the 60 percent reported in the studies of top Fortune 500 and 200 companies (Line et al., 2002; Jose and Lee, 2007; Paul, 2008; Rikhardsson et al., 2002). However, a close review of the industrial sectors of these Fortune 500 and 200 companies reveals that many of them are in a sector that has a substantial direct impact upon the environment, such as petroleum refining, chemicals, electronics, and pharmaceuticals. They may be subject to more internal and external pressures to release their environmental practice information online. Compared with these Fortune 500 and 200 companies in other industries, hotel companies may not appear to inflict immediate significant environmental damage, and therefore they may not feel pressured to disseminate environmental reports. Consequently, these hotel companies may lack the motivation to include their environmental practices on company web sites.

With regard to the size of the companies, 65 percent of the hotel companies that included environmental information on their web sites have more than 200 hotel units. This indicates that the larger corporations are more engaged in disseminating environmental information on their web sites. This finding is consistent with studies on corporate social responsibility and indicates that large companies often see competitive advantage in making environmental improvements, and are thus more likely to disclose information related to their environmental activities. Small firms that have low perceived impact on the environment are likely to ignore the dissemination of related environmental information (Morhardt, 2010; Revell and Blackburn, 2007; Vazquez and Liston-Heyes, 2008).

The results of the first six research questions are reported in the following sections. Table II presents the frequencies of the presence of environmental management system components.

6.1 Environment web site heading

Of the 50 sampled hotel companies, ten had environment-related headings on their home pages (i.e. “Environment,” “Environmental Awareness,” “Sustainable Development,” “Sustainability & Environment,” “Green Policy,” “Wyndham Green,” and “WelcomEnviron”), whereas 11 others had “environment” as second- or third-level headings under the main heading (i.e. “About Us,” “Corporate Information,” or “Corporate Responsibility”). Two companies had no environment-related heading per se, but mentioned the environment as part of the company's values or vision statement under the heading of “Responsible Business” or “Company Values.” A well-designed web site with a clear structure and meaningful links will facilitate access to information within the web site (Walton et al., 1997). Fewer than 50 percent of the home pages surveyed included headings related to environmental concerns, indicating that online disclosure of environmental information was not a high priority on the web sites of the sample hotel companies. This finding suggests that the objectives and design of hotel web sites focus on prospect marketing and facilitation of customer interactions for reservations, etc. Dissemination of environmental information (if performed) appears to be “window dressing” to promote a positive image.

6.2 Environmental policy or strategy

A company's environmental policy outlines a company's environmental principles and the rationale and philosophy underpinning these principles (Brown, 1996; Jose and Lee, 2007). A company's environmental policy or statement acts as a guideline for setting environmental objectives and targets. A company that is committed to the environment should have a clear environmental policy to guide its environmental development. Such a policy also demonstrates determination to embrace environmental sustainability. Of the 23 web sites that addressed the environment, 19 included such specific terms as “environmental statement,” “environmental policy,” “environmental commitment,” or “environmental vision statement.” Four had statements related to the environment but did not specify an environmental policy or strategy.

The Wyndham Hotel Group's web site contained sections with the headings “Our Responsibility,” “Our Green Policy Statement,” “Our Strategy,” “Our Objectives,” and “Our

Practices.” The InterContinental (IHG) group displayed “IHG's Group Environmental Policy” on its web site. The Hilton web site also featured statements reflecting sustainable development, environmental policy, goal achievement, and environmental commitment, as did those of Starwood, Hyatt, Fairmount Hotels and Barcelo Hotels. Millennium expressed its green policy in statements describing its primary short-term goals with regard to sustainable development. The La Quinta web site featured a green strategy statement, and both Whitbread and Scandic included environment policy statements. The web sites of Taj Hotels Resorts and Palaces had a vision statement about the planet. Sol Melia's web site had a fundamental mission statement that included the environment and its Global Sustainability Policy contained a summary of its vision statement and related principles.

An environmental policy is top management's declaration of its commitment to the environment. This policy presents a unifying vision of environmental concern of the entire company, and serves as the foundation of environmental management (Maxwell et al., 1997; Savely et al., 2007). Everyone in the organization should understand the policy and what is expected of employees to achieve the organization's environmental objectives and targets. A well-publicized environmental policy will enhance an organizational culture that strives toward continuous environmental improvement. The importance of such a policy cannot be overemphasized. A corporate web site provides a great platform for declaring a company's environmental policy to its employees or stakeholders. Rikhardsson et al.'s (2002) study of the global Fortune 500 reported that 82 percent of the companies included environmental policies on their web sites. It is of concern and somewhat surprising to discover that only 38 percent of the top 50 hotel companies have included environmental policies on their web sites. This may be because some of the hotels have not established such a policy or they may not be aware of the power of the internet as a communication and marketing tool to publicize their environmental policy.

6.3 Initiative of environmental programs

Of the sample web site examined, 40 percent announced the initiation of environmental programs: examples included the Wyndham Hotel Group's “Wyndham Green”; IHG's “Green Engage”; Accor's “Earth Guest”; Marriott's “Reduce, Reuse, Recycle” program; Red Roof Inn's “Staying Red, Going Green” program; Rezidor's “Responsible Business” program; the Taj Hotel Group's “EARTH (Environment Awareness & Renewal at Taj Hotels)” program; and Fairmount Hotels' “Green Partnership, Eco-meet, Greening our Greens” (golf) and “REACH (Rendering, Encouragement, Assistance, Care and Hope)” programs. These environmental programs addressed such issues as energy saving, waste management, and water conservation. Many other corporations have adopted the self-initiated environmental programs, which are designed to meet

the characteristics and special needs of the industries to demonstrate to customers, regulators, and the public their commitment to environmental protection. For example, Polaroid has a Toxic Use and Waste Reduction Program, 3M has a “Pollution Prevention Pays” program, and Ford has a “Manufacturing Environmental Leadership” program”. Such information can also help to attract employees, increase employee loyalty, and encourage employee participation in environmental programs (Epstein and Roy, 2007; Maxwell et al., 1997). The findings presented in this section imply that hotel companies utilize the same strategy to assume their environmental responsibility. Section 6.7, Areas of Environmental Endeavor, summarizes the content of these programs.

6.4 Environmental monitoring/tracking systems

Environmental monitoring/tracking provides feedback on the performances of environmental programs. Companies can track progress toward their goals and assess the results, which can then be used to establish the following year's objectives or to modify existing environmental programs. Of the 23 web sites that addressed the environment, 83 percent included information indicating that the company had a monitoring system in place to set targets and to measure and benchmark their environmental performance. For example, IHG developed an online sustainable development reporting and management system called Green Engage to assist general managers of IHG's 4,000 hotels to manage energy, water, and waste consumption more effectively. Marriott used a tracking system to measure electricity and gas consumption in guest rooms and public areas. Hyatt had an online ECO tracking tool that measured energy consumption, greenhouse gas emissions, water consumption, and waste generation by property, region, and brand. Accor's management table audits its environmental performance; the annually updated data specify the goals and indicators (e.g. number of hotels certified, percentage of waste reduction, percentage of water saving) to measure progress toward each goal. The results, current goals, and renewed commitment were posted. For example, Accor reported that 45 percent of owned and leased hotels recycled paper, cardboard, and glass; and 82 percent of owned and leased hotels processed batteries and compact fluorescent tubes and light bulbs in 2009. To respond to this result, the goals of 2010 were established at 60 percent and 95 percent, respectively. The tracking system provides a control method to ensure that the company is on track for environmental management. This finding also demonstrates that hotel companies are adopting environmental audits to improve efficiency and better manage resource consumption.

6.5 Corporate environmental report documentation

Corporate environmental reports (CERs) are publicly available, freestanding documents that companies use to communicate environmental performance to their stakeholders (Lober et al., 1997). A CER often contains information regarding the company's policy, overall position with regard to the environment, progress towards specific targets established in previous reports, and new targets to improve performance (Jones et al., 1999). Traditionally, CERs have been produced in hard copy annually and freely distributed to selected recipients or have been available on request. With the advent of the internet, many companies began using corporate web sites to disclose environmental information, including annual environmental reports, to reach a wider audience, and to increase stakeholder engagement (Guthrie et al., 2006; Rikhardsson et al., 2002). In terms of corporate environmental report documentation, only ten hotel companies (Wyndham, IHG, Accor, Marriott, Global Hyatt, Rezidor, TUI, Scandic, ITC Hotels, and RIU) made their annual environmental reports (or sustainable reports) available on their company web sites. Obviously, the leading hotel companies have not widely adopted the internet to disseminate their annual environmental reports, and the distribution of traditional hard-copy annual reports may still predominate in the hotel industry. Although no consistent environmental reporting standard has been established in the hotel industry, this study found that hotel companies such as IHG, Accor, Marriott, TUI, and Rezidor used G3 guidelines developed by The GRI as the framework for their environmental reporting. GRI is a network-based organization that promotes a standardized approach to sustainability reporting. G3 guidelines developed by GRI include principles and performance indicators organizations can use to measure and report their economic, environmental, and social performance. These guidelines are the world's most widely used sustainability reporting framework (Global Reporting Initiative, 2000, n.d.).

6.6 Environmental awards/recognition

Environmental awards and recognition received by hotel companies can be used as an indicator to identify best practices in the hotel sector. Thirteen hotel companies (Wyndham, IHG, Accor, Marriott, Whitbread, Global Hyatt, Rezidor, Sol Melia, TUI, Barcelo, Scandic, ITC Hotels, and Fairmount) included information about receiving outstanding achievement awards for incorporating environmentally sustainable development programs in their business operations. Of the 50 hotel companies, only the TUI Hotel Group and Accor reported their appearance in the Dow Jones Sustainability World Index on their web sites. Established in 1999, the Dow is the first global index in the world that tracks the financial performance of leading sustainable development-sensitive companies, and has become an important investment index for sustainability-oriented investors. These awards also provide a level of third-party verification of the exemplary environmental performance of these hotels. The performance of these award-winning hotel companies can serve as best-practice models in environmental management for other hotels. From the marketing perspective, the inclusion of environmental awards and

recognitions on hotel web sites also enhances their company image and increases the value of their brands (Chan and Wong, 2006; Dickinson et al., 2008).

The accuracy of the information included in online corporate environmental reporting is often questioned. Independent, third-party verification or reviews can confirm the integrity and accuracy of the reported information, thereby reassuring readers (Line et al., 2002). These award recognitions also provide a level of independent verification with respect to the company's environmental achievement.

6.7 Areas of environmental endeavor

The specific environmental endeavors companies included on their web sites fell into 12 categories. The top five major environmental focus areas were energy management, environmental education, water conservation, waste management, and green supply and purchase, respectively. In terms of the focus areas, the finding is consistent with previous hotel environmental management studies. Compared to past studies, no extra focus area was identified. Nonetheless, hotels tended to employ the partnership as a strategic tool to enhance their environmental efforts. The 17 companies that provided information regarding partnerships established the relationship by partnering with environmental-related organizations, such as the Natural Step (a non-profit international organization dedicated to education, advisory work, and research on sustainable development), the US Environmental Protection Agency (e.g. through its Energy Star program), the US Green Building Council, and local communities. Table III shows the components of the environmental endeavor mentioned on the sample web sites, and the percentage that included such information. The environmental activities and practices summarized from the leading hotel companies can offer a starting point to other hotels that would like to move toward environmental sustainability. The list can also be used by hotels that are involved in environmental activities for comparison and to identify potential areas of attention.

7. Additional findings

Several hotel firms have displayed their environmental performances via internet interactive and multimedia facilities. For example, IHG's Innovation Hotel is an online showcase of a green hotel of the future. Web site visitors can experience this environmentally friendly hotel by taking

a virtual tour. Accor and Scandic have live demonstrations of their environmental achievements. The Wyndham Green web site provides a communicative platform that permits visitors and members to share green ideas and experiences. This type of environmental information disclosure can be achieved only via internet media.

Several of the sample hotel web sites provide an abundance of environmental educational resources. For example, the Wyndham Green web site provides tips to go green and information relating to green travel. This indicates that these leading companies have expanded the scope of their environmental management to a broader social responsibility. Their web sites provide a platform for public education.

To further the concept of green, some of the companies not only purchase green products but even develop green products for their customers to enhance their environmental efforts. For example, Marriott, Accor, Fairmount and Wyndham offer green meeting packages that assist meeting planners by suggesting meeting structures that encourage an awareness of environmental issues and optimal waste diversion strategies for conference delegates. Other green products, such as green cuisine and eco-rooms, are additional innovative creations of the environmental endeavor of these hotel companies. IHG's web site has a specific link entitled "green hotels" for green hotel reservations to respond to the growing market of green customers. Environmental certification provides a mechanism to encourage environmental management practices. To maintain this recognition, hotels must pass regular re-evaluations to ensure continued compliance with the requirements and maintenance of proper operational standards. Hotels benefit from receiving objective assessments of their practices, confirmation of meeting appropriate standards, and a benchmark for maintaining that competence. Of the 23 hotel companies that had environmental web pages, about half mentioned their affiliation with environmental certification agencies. This implies that external validations have been recognized and adopted in the hotel industry to enhance environmental management.

In addition to obtaining environmental certifications, some hotel companies have signed agreements to demonstrate their commitment to the environment. One such agreement, the United Nations' Global Compact, embodies ten principles related to human rights, labor, and the environment. Environmentally sensitive hotel companies, such as Accor, Sol Melia, and Rezidor, signed the Global Compact and incorporated the ten principles into their daily business operations.

To ensure the effective implementation of their environmental policies, some hotel companies have added departments or positions related to sustainable development. For example, Accor has a Sustainable Development Department with six full-time employees, who report directly to the Executive Committee; Wyndham Hotel Group has a committee charged with supervising the implementation of sustainable development programs and measuring the results; Whitbread Hotel Group has its Energy and Environment Team; Global Hyatt has the Green Teams; Sol Melia has its Sustainable Development Department; and TUI has the Board of Sustainable Development. Scandic assigns one team member at each hotel to take charge of environmental development. Fairmont Raffles Hotels International instituted an Environmental Affairs Division at the corporate level, as well as hotel-based Green Teams. The creation of new positions illustrates the employment of organizational structural changes to support the environmental initiatives.

8. Conclusions and implications

A company's corporate web site provides an effective platform to develop its image and communicate with its shareholders with regard to its sustainability commitment. Although the 50 hotel companies sampled have 45,245 hotel units worldwide, the results of this study indicate that only 46 percent of the sampled companies include environmentally related information on their web sites. Of those, 69 percent were Europe-based hotel companies, 37 percent were North America-based hotel companies, and 33 percent were based in Asia. The European trend towards greater environmental reporting by hotel companies is consistent with a study by Kolk (2003), where governments in Western Europe and Japan were found to either mandate or encourage certain corporate environmental disclosures.

The features and content of a corporate web site have the potential to support the organization's efforts to develop relationships with the public (Hong and Rim, 2010; Park and Reber, 2008). As the environment is becoming an integral business function, hotel companies should utilize the unique advantages of the internet to present environmental information. Only 38 percent of the sampled companies included explicit statements regarding the environment with headings such as "Environmental Statement," "Environmental Policy," or "Green Policy." Jose and Lee's (2007) study of 200 Fortune global corporations' environmental reporting on web sites shows that 60 percent of these corporations included an environmental policy on their web sites. The top 50 hotel companies did not compare favorably. Based on the review of the top hotel company's corporate web sites, hotel corporations seem slow to respond to the call to disclose environmental information. There are several possible explanations. First, environmentally sensitive sectors such as electricity/utility companies are more likely to disclose environmental

issues because of their greater public influence. Compared with these environmentally sensitive sectors, the hotel industry may not be the focus of the public's concern regarding environmental issues. Second, except in a few countries, such as Australia and Norway, companies are not required to participate in environmental reporting, which is voluntary. Because of the lack of compliance required, some hotel companies may not be motivated to disclose their environmental information. Third, there is no global environmental governance in the hotel industry, and there are no uniformly recognized sets of standards for hotel environmental reporting. Some hotels may not know how to report on environmental issues. Fourth, this implies that hotel web sites are used primarily as a marketing tool for selling services, online reservations, and web advertising, rather than disseminating information on their environmental activities. Fifth, according to the Cornell Sustainability Roundtable held in 2009, hotels are caught in a situation in which environmental standards are inconsistent and consumers' views are unclear (Cornell Sustainability Roundtable, 2009). Some hotels are not enthusiastic about implementing environmental practices because they fear such practices may be seen as detrimental to the comfort of guests (Two Tomorrows, n.d.). In addition, financial constraints may be a factor preventing a hotel company's participation in an environmental program. Some companies may have limited resources, finances, personnel, and technical abilities and consequently may choose not to expend resources on voluntary activities if the benefits are not readily discernable (Chan and Ho, 2006). The lengthy payback periods of investing in environmental systems also may delay the implementation of environmental programs. It is of concern that some hotels may lack environmental awareness and ignore their environmental responsibilities. Some hotel groups may not have implemented any environmental practices; therefore, they have nothing to disclose on their web sites. If this is true, actions must be taken to move the hotel industry toward greater environmental responsibility and transparency. Government, environmental organizations, and academia can work together to offer environmental training workshops to increase environmental awareness and provide hotel managers with the knowledge and skills to implement environmental practices and conduct environmental reporting. Corresponding policy should be established by the government to encourage hotels to integrate environmental management within their core management processes. With regard to environmental reporting, researchers have indicated that sustainability reporting has become part of companies' daily affairs, where the question now is no longer whether to report or not but how to report (Marshall and Brown, 2003). Hotel companies can adopt such global environmental reporting standards as the GRI's G3 sustainability reporting guidelines, which have been widely adopted by firms. By taking advantage of the cost-efficiency and interactive functionality of online dissemination of environmental performance, hotel will be acting in their best financial interest.

With regard to the adoption of an environmental management system based upon ISO14001, hotel companies such as Wyndham, IHG, Accor, Whitbread, Hyatt, Rezidor, Sol Melia, TUI, and

Scandic are well ahead of their competitors in integrating environmental management into their business strategies and operations. Their web sites detail their environmental commitment from planning to implementation and from implementation to evaluation. Their web sites clearly reveal their environmental management niches and achievements. In addition, their web sites provide information about environmental resources and educational information to increase the awareness of visitors to the sites. Such information delivers a strong message of a company culture committed to making the earth a better place in which to live. These socially responsible companies' web sites provide sources of information for other hotels that could or would like to engage in environmental sustainability.

With regard to environmental content per se, this study identifies 12 specific areas. Among these, the most frequently mentioned environmental focus areas are energy management, environmental education for customers and employees, water conservation, waste management (recycling and reuse), and green supply and purchase. The environmental focus areas of these top hotel companies are consistent with those reported by previous hotel environmental studies. Compared to prior studies, no new environmental focus area was identified on their web sites. Several hotels, such as Wyndham and Accor, include links to accounts of best practices in hotel environmental management, which offer examples that can be modified or adapted by peer hotels. These contents also provide insight into environmental issues that are significant to the operations of a hotel and the specific knowledge and skills hotel managers or employees need when engaged in environmental sustainability. It seems that these companies' motivation in environmental management has expanded beyond basic environmental engineering to a stronger environmental concern and responsibility by offering education to increase environmental awareness, increasing community involvement by partnership, and incorporating environmental management into daily operations.

This study found that small hotel corporations were less engaged in disseminating environmental information on their web sites than their larger peers. However, because sustainability has become a global phenomenon (Kolk, 2003), it is not just the responsibility of large corporations to disseminate environmental information; medium-sized or small companies should also be part of this process (Isenmann et al., 2007; Raar, 2002). Small and medium-sized hotels can use the corporate environmental sustainable development practices identified in this study to embed environmental sustainable practices into their daily operations. The most immediate steps include a serious commitment to environmentally sustainable development from the top management, appointing a person to be in charge of environmental management, instating an environmental policy and processes, adopting environmental management systems, and monitoring and reporting performance. Unlike large hotel companies, small and medium-sized hotel companies may have limited resources. However, this should not prevent them from adopting

environmentally friendly practices. Instead, they can begin with initiatives that are easy to implement. For example, to increase energy efficiency they can:

- operate as much as possible during daylight hours;
- use energy-efficient lighting;
- purchase energy-efficient equipment; and
- use renewable energy, such as sunlight and wind.

To conserve water, they can:

- adopt linen reuse programs;
- detect and repair drips and leaks in guests' rooms; and
- use water-saving showerheads, sink aerators, and diverter valves.

To manage waste, they can:

- place recycling bins or other such receptacles throughout the property;
- sort waste;
- place milk in jugs, sugar in shakers, and jam and butter in bowls (instead of using disposable packages); and
- donate leftover food to the needy.

They can later expand to environmental partnership, bio-diversity, and seek certifications.

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Environmental protection is an ongoing issue. Being environmentally active is not just a good deed; it is a necessary business operation to ensure sustainable entrepreneurship. It is predicted that the focus on sustainability will be the next business megatrend after quality management and information technology, and that only companies that are able to navigate the megatrend will succeed and survive (Lubin and Esty, 2010). Enz and Siguaw (1999, p. 72) point out that “Environmentally friendly hotel operations may be the wave of the future.” Following this trend, the hotel industry may realize the urgency of taking immediate action to protect the environment

further, and recognize the importance of environmental disclosure to the interested public. The researcher predicts that the demand for employees with skills and knowledge pertaining to environmental sustainability will increase in the hotel industry. Likewise, hotel managers will be required to be equipped with relevant knowledge so that they can turn environmental and social policies into everyday actions. Hospitality trainers need to add environmental subjects to their employee training. Most of all, it is important to equip employees with environmental stewardship so that they are well prepared to embrace an environmentally friendly operation. Hospitality educators must become sensitive to the need for an environmentally sustainable component in their curricula to thereby prepare students to become leaders in promoting sustainable development in the hotel industry.

This study contributes to the literature of hotel environmental study in several ways. First, this study provides a preliminary picture of the environmental information disseminated by the leading hotel companies on their web sites. Second, this study provides source information regarding current environmental efforts in which the top 50 hotel companies have engaged and the environmental actions they have taken. This information serves as a guideline for hotels that would like to start on the path to environmental sustainability. Third, this study identified hotel company web sites that provide abundant environmental educational resources, which could be used by peer hotel firms to develop environmental training programs for employees and customers. Fourth, this study offers content information for hotel companies that would like to create environmental web sites. Taken together, this analysis provides a good starting point for hotel companies to initiate programs or practices for environmental sustainability and to communicate those actions effectively to their shareholders and the public.

9. Limitations and future study

This study has several limitations. First, this study focuses only upon the environmental information of sample hotel companies' web sites. The environmental policies and practices disseminated by the companies through other communication media are beyond the scope of this study. Some may have established environmental policies or initiated environmental programs that were not disclosed on their web sites. On the other hand, some hotel companies may have informative environmental web sites but do not put all of the policies into practice. Because the data collected in this study were limited to web site information available to the public, this study was not able to necessarily identify the best practices in hotel environmental sustainability. This study does, however, promote as a "best practice" the use of internet web sites to tout a hotel's commitment to environmental responsibility.

Second, this web site analysis reveals that web page information may be changed and new environmental information may be added at any time. The findings of this study are based upon a snapshot of available web sites as of March 2010.

Third, two coders conducted this content analysis, and human errors are always possible in coding data due to fatigue, personal bias, and perception. Even though the inter-rater reliability exceeded the minimum standards of 0.70, it is not a perfect reliability.

To address the first limitation and to obtain comprehensive information about the major hotel companies' environmental policies and practices, future studies can collect data by multiple means, such as interviewing leaders of hotel companies and analyzing their news releases, environmental reports, and related documents.

To respond to the second limitation, a longitudinal study on environmental web site analysis could determine changes in terms of the environmental web site content or the hotel companies' environmental endeavors.

To eliminate the concern of human error in conducting content analysis, future studies could apply computer software for data coding to achieve perfect reliability.

Moreover, future research might increase the scope of the sample to include small and medium-sized privately owned individual hotels that have more limited resources, or a variety of types of operations, such as city hotels and resort hotels with specific emphases and approaches to cope with environmental challenges. Future studies can further explore this topic by developing assessment tools that evaluate the overall performance of hotel environmental practices. Lastly, it would also be worthwhile to investigate why 54 percent of the top 50 hotel companies in this study did not include environmental information on their public web sites. Future studies designed to answer these questions can make important contributions to the sustainable development research literature and, most importantly, inspire the implementation of green policies in the hotel industry.

Tables 1-3 are omitted from this formatted document.

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