CASE STUDIES OF BEST PRACTICES IN SUSTAINABILITY IN GERMAN AND ESTONIAN HOTELS

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ABSTRACT

It is widely recognised that hotels, as important members of the global tourism value chain, have negative impacts on the environment. Many hoteliers feel the adoption of environmental measures is expensive and produce little commercial benefit. A further obstacle to improving hotels’ green credentials is the perception that adapting staff attitudes and management operations to become more environmentally friendly is too complicated and produces only negligible results. The study aims to create a snapshot of best practices in sustainability in the Hospitality Industry adopted by eleven hotels in Germany and Estonia. It also aims to contrast the development of sustainable management systems in these two European countries that have different economies and cultures.

Key Words: Sustainable hospitality management systems, best practices

INTRODUCTION

Would you prefer a new towel or will you be using this one again? The hotel bathroom saying is to be found across the planet and has become a standard operating procedure. But should consumers believe that a hotel takes the environment seriously from broadcasting this traditional bathroom routine? If not, then when exactly can a hotel be considered to be environmentally sustainable?

Just a decade ago the term “green business strategy” evoked visions of fringe environmentalism and a high cost for minimal benefit. Now that perception has changed – companies now realize that a strategy good for the world can also be good for the bottom line. Green business strategy is no longer an option; the future depends on it’ (Harvard Business Review [HBR], 2007, front cover page). “Whether you’re in a traditional smokestack industry or a ‘clean’ business like investment banking, your company will increasingly feel the effects of climate change. Even people skeptical about the dangers of global warming are recognizing that, simply because so many others are concerned, the phenomenon has wide-ranging implications” (Lash & Wellington, 2007, p. 94). The above statement demonstrates that global warming has become a serious issue to the health of our planet. The key issue is, that due to public discussion and media pressure, the ‘green’ movement has become an important topic. “Greening” is no longer a minority interest but is now one of the
most important issues of this century. Additionally, this assumption indicates that world economies and individual businesses will have to increase the sustainability of their operations.

The concern about negative impacts of hotels continually grows. The Hospitality Industry does not count amongst the great polluters such as the metallurgical or chemical industry. However, the size and rapid growth of the industry make it clear that environmentally sustainable action is necessary in hotel management (Stipanuk, 2002). Furthermore, the authors maintain that pursuing a ‘green’ strategy has great business potential particularly in highly competitive industries such as the hospitality industry. As different industries and businesses adopt ‘greener’ strategies the hospitality industry will have to follow, simply because those companies will also request their business partners to adopt a ‘greener’ attitude (Go & Pine, 1995).

The primary aim of this research paper is to highlight and contrast best, environmental sustainable practice in the Estonian and German Hotel Industry. These two European countries have vastly different economies and cultures. Germany, a European economic powerhouse and Estonia, a new, developing economy (Eurostat, 2008) The secondary aim is to show that ecology and economy no longer require trade offs and demonstrate that business advantages can be achieved by pursuing ‘green’ strategies.

The potential hotels have to reduce their carbon footprint: The Hospitality Industry is not the first one would imagine when considering pollution, waste, greenhouse gases and environmental hazards. The heavy industries such as manufacturing, energy production, the steel industry, oil production or the chemical industry spring more quickly to mind. Grove, Fisk, Pickett, and Kangun (1996) support this assumption when stating that the demand for greening is much more acute in industries where the pollution is actually visible. This argument seems reasonable, however, Grove et al. (1996, p.58) refute this hypothesis by saying that ‘…while the processes that are reflected as service products may be intangible, perishable, and consumed as they occur, they often involve the support of a wide spectrum of physical components and reliance on natural resources’. Many authors, (Grove et al. 1996; Bohdanowicz, 2005) emphasize the importance for hotels to reduce their impact on the environment as they count amongst the greatest polluters and resource consumers within the service industry. Bohdanowicz (2005) illustrates her argument by saying that a normal hotel annually releases between 160 kg and 200 kg CO2 per square meter of room. Moreover, guests consume between 170 and 360 litres of fresh water per night and produce one kilogram of extra waste.

Individual hotels and especially major hotel chains, that constitute a large percentage of rooms worldwide, have a significant potential to decrease their impact on the environment. Moreover, large hotel brands have the financial capacity to invest in technology. Additionally, hotel chains have the opportunity to introduce environmental policies on a corporate strategic level and therefore reduce the environmental impact on a large scale (Bohdanowicz, 2005).

Help available to hoteliers wishing to instigate environmentally sustainable best practices: During the past decade there has been a flurry of information made available by governmental organisations, hotel groups and scholars for hoteliers wishing to improve their environmental performance. One of the publications is the Environmental Action Pack for Hotels created by the United Nation Environmental Programme (UNEP). The Action Pack aims to help hotel managers and owners improve their approach to environmental management. It encourages the use of action checklists for all hotel departments, self-audits and concrete guidelines for development. The Action Pack is the result of collaboration between UNEP, the International Hotel & Restaurant Association (IH&RA) and the International Hotels Environmental Initiative (IHEI). The IHEI’s Charter for Environmental Action in the International Hotel and Catering Industry also provide practical guidance for the Industry on how to improve environmental performance while contributing to successful business operations. The IH&RA, together with the UNEP and The International Association of Hotel Schools (EUHOFa International) have produced a complete information pack for developing and expanding the environmental curriculum in hotel schools. This teaching pack is designed to raise environmental awareness, to support in developing and implementing Environmental Management Systems (EMS) and to serve as a resource handbook.
Even though international legislation concerning pollution has been strengthened and accreditation for improved environmental performance in hotels such as that offered by Viabono in Germany has expanded, only a few examples can readily be found of hotels using significant environmental management systems particularly in the sector covering privately owned and operated hotel properties. The best way forward for such hotels wishing to improve their environmental profile is to start with a checklist system as mentioned above. In turn, a self-audit of all operational practices will produce a corrective action plan that can lead to environmental certification. Certification is not an end in itself but it is often considered an important promotional tool for hotels wishing to promote their efforts in sustainability.

Internationally recognised EMS accreditation schemes include the International Standards Organization ISO 14001 standard, the European Community Eco-Management and Audit Scheme EMAS which both certify sustainable hospitality operations in all European countries (Watson, Emery, 2004). The Green Key eco label widely certifies Estonian hotels but not German hotels at the moment (FEE, 2007). While the ISO 14001 and the EMAS accreditation systems are rooted in the manufacturing sector (Font, Yale and Tribe, 2001), but have clear applications in the service industry, the Green Key eco label focuses particularly on the tourism and hospitality sector (FEE, 2007). In a recent cooperation between the Agence de l’Environnement et de la Maîtrise de l’Energie (The ADEME is a French publicly funded organisation in charge of supporting research projects related to sustainable resources management) and the Union des Métiers et des Industries de l’Hôtellerie (UMIH) a joint-venture was created with the goal of developing a common approach to favourise environmental protection and sustainable development in the hospitality sector. This action is particularly related to coffee houses, hotels, restaurants and nightclubs (ADEME, 2007). Ultimately, the UMIH wish to create the general objective of encouraging hospitality operations to integrate the management of environmental issues in their particular spheres of activity. An environmental charter is also planned covering the various technical and methodological aspects. Adhering to the charter should then facilitate obtaining European accreditation such as EMAS. In Germany, the organic food and drink certification organisation Viabono (created in 2002) is supported by the Federal Agency for Nature Conservation (Bundesamt für Naturschutz or BfN), by the Federal Ministry for the Environment, Nature Conservations and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit or BMU) and the Federal Ministry for Economics and Technology (Bundesministerium für Wirtschaft und Technologie or BMWi).

LITERATURE REVIEW

What makes hotels environmentally sustainable?

The term “sustainability” was first used in the Brundtland Report (United Nations, 1985). Their definition of “meeting the needs of present generations without compromising the ability of future generations to meet their own needs” has become the most widely acceptable. Sustainable business practice is about maximising business potential without degrading the environment and working harmoniously with society. Lockyer (2007) defines ‘green hotels’ in this way. The American association, Green Hotels, is committed to promoting ecological consciousness in the hospitality industry and provides a more resource oriented definition: ‘green hotels are environmentally sustainable properties whose managers are eager to institute programs that save water, save energy and reduce solid waster while saving money to help protect our one and only earth’ (Greenhotels, 2007). Similar to the Green Hotels’ definition, various authors (Mackie, 1994; Faulk, 2000; Webster, 2000) have previously identified three key operating areas in which hotels can improve their environmental performance, namely energy, water and waste.

Energy: Stipanuk (2002) defines energy as ‘electricity, fossil fuels, water and sewage, certain vehicle fuel and in some instances purchased steam, hot water and chilled water.’ Energy costs usually count for four to six percent of hotel’s revenue and the trend has been driven upwards over the last few years (Stipanuk, 2002). The accumulated cost of energy for the American hospitality industry revolves around 3.7 billion U.S. dollars. Swarbrooke and Horner (2007) underlining Stipanuk’s (2002) claim that ‘energy costs are one of the largest non-staff cost items on a hotel’s profit and loss account’. Webster (2000) claims that energy saving initiatives can be clustered into three chronological orders, namely short-term, mid-term and long-term. Short-term savings (pay back time below one year) can be achieved without vast capital investment (Webster, 2000). Those
initiatives include switching off the lights and heating when not in use or switching off floors that are not occupied. This is especially true for hotels that are located in tourist areas with high seasonality.

Mackie (1994) emphasizes that those short-term energy saving initiatives can be achieved only when staff are committed to perform in a sustainable way and do not necessitate extensive advance planning. In this situation, pay back is instantaneous. Mid-term energy saving initiatives require a more sophisticated approach. In terms of operating technology, Webster (2000) proposes a series initiatives to gain mid-term energy savings (pay back time between one and five years), including replacing light fittings, insulating the roof, posing closing devices on doors, fitting all radiators with individual thermostats and implementing an on-going staff training plan in energy management. Of the above-mentioned measures, lightings in a large hotel property can generate considerable cost savings. Lighting costs may account between 15 and 25 percent of hotels electricity consumption and between 25 and 30 percent of the total energy cost (Greenhotelier, 2003). According to Baker (2005), the long-term savings are identified as requiring investment in technology and therefore with a longer pay back time (five years and more).

Webster (2000) proposes five initiatives in order to enhance energy efficiency; (1) the installation of a computer-controlled air conditioning system; (2) the installation of double glazing; (3) the installation of an energy efficient kitchen; (4) the purchase of fuel efficient refrigeration and; (5) the purchase of fuel efficient transport. Depending on the geographical location of the hotel, heating, ventilation and air-conditioning (HVAC) can account for up to 50 percent of a hotel’s total utility cost (Baker, 2005). Modern air conditioning systems consume 30 percent less energy then a 20 year-old system and are capable of re-using the heat to preheat water for laundry or swimming pools (Greenhotelier, 2004a). Another critical cost and environmental impact area is the hotel kitchen. A kitchen can consume approximately 15 percent of a hotel’s entire electricity and fossil fuel (Greenhotelier, 2005a). While technology, such as the use of convection ovens and induction hobs, is surely a step in the right direction, the Greenhotelier (2005a) argues that an environmentally sustainable hotel policy, as well as staff training on energy saving behaviour, can contribute vastly towards energy savings. In guestrooms, the use of a cardholder at the entrance of the room that can connect or disconnect all electrical as well as heating and ventilation systems is the most effective room energy saving device.

Water: Water is also considered a source of energy (Stipanuk, 2002). Water is in fact a crucial resource for the hospitality industry due to its scarcity and its role in a number of activities on property such as laundry, food production, bathrooms and outdoor facilities (Baker, 2005). Webster (2000) argues that only five percent of a hotel’s overall water use is utilized for eating and drinking while the larger part is used for cleaning (including showering, bathing, laundering and dishwashing). Stipanuk (2002) adds that regulations regarding water use will tighten in the future and hoteliers will have no other options than to introduce water saving policies and technologies to further reduce consumption. Guestrooms account for over 35 percent of water usage in large hotels (cited in Webster, 2000).

Webster (2000, p. 90) argues that ‘general estimates are that guests use only 10 percent of the total bedroom water poured and that the rest is used by the chambermaids during cleaning’. Similar to the short-term energy reduction strategy, staff training is essential when contemplating decreasing water usage. As reported by Baker (2005), various simple technologies are available to support lower water usage such as; (1) water flow controllers; (2) faucet aerators and; (3) push button activated showers in public areas. Good water management can result from staff training and motivation.

Tasks such as washing vegetables should always be done in bowls instead of running water and defrosting should be done overnight rather than directly with water. Finally, many hotels have introduced water initiatives in the laundry department causing controversial discussions, namely towel and linen programs (Greenhotelier, 2005b). While hotel guests have become increasingly aware of environmental issues, many five-star luxury hotels have been trailing with the initiative stating that guests are reluctant to apply reuse programs (Greenhotelier, 2005b). Clear communication is essential to avoid misunderstanding between the intended environmental initiative and guest comfort.
Waste: Baker (2005, p. 71) maintains that ‘...costs can be greatly reduced by waste reduction and replacing conventional waste disposal activities with practices aiming for reuse, disassembly, recycling and composting’. Proper waste management is a cost-cutting measure as well as an environmental impact-reducing measure. Four categories of waste creation can be identified (Baker, 2005); (1) as a result of site clearance; (2) throughout the operational life of a hotel; (3) during refurbishment and; (4) at the end of the building’s life or if there is a change in use. However, Baker (2005) states that the majority of waste will be created throughout the operational life of a hotel. As such, waste management systems should be implemented at a very early stage of hotel development. The four ‘r’ system of reducing, reusing, recycling and recovering has gained increasing attention over the past decade (Webster, 2000; Stipanuk, 2002; Greenhotelier, 2004b). Minimizing waste starts in the procurement department, ensuring that only products with a minimal packaging are acquired (Stipanuk, 2002). Working with suppliers that have a proper environmental policy in place is also necessary. The increase in price for raw material can immediately make a recycling and reusing programme more attractive (Webster, 2000).

With this brief overview of the technologies and initiatives mentioned that bear the potential to improve the use of resources in the three key areas (energy, water and waste), the question remains:

When exactly can a hotel be considered to be environmentally sustainable?

The search for an answer leads us to survey the current best practices in two European countries, Germany and Estonia. Following a vigorous environmental protection movement triggered in Germany over thirty years ago, and in a time when the organic food industry is booming (Tagesschau, 2006), the German hotel industry is gradually moving in line with other sections of society. Estonia has a distinctive natural environment and took active steps toward protection over the past decade by ratifying the Convention on Biological Diversity and adhering to the pan-European nature conservation network Natura in 2000 (Keskonnaministeerium, 2005a). The Estonian National Strategy on Sustainable Development (SE21) is clearly focused on sustainability for the long-term development of the Estonian state and society until the year 2030 (Keskonnaministeerium, 2005b). The general development principle of the country is ‘to integrate the requirement to be successful in global competition with a sustainable development model and preservation of the traditional values of Estonia’ (Keskonnaministeerium, 2005b). Estonia, along with other European countries, has adopted the Green Key system as an internationally recognised eco label for environmentally conscious businesses (VisitEstonia, 2007a). Though the Green Key eco-label is voluntary, it has received notable attention amongst hotel companies, ranking third Europe in number of Green Key labels awarded behind The Netherlands and Denmark.

METHODOLOGY

The study was undertaken by the Department of Hospitality Management at the International University of Applied Sciences Bad Honnef-Bonn, Germany, in partnership with the Department of Tourism Studies, at Pärnu College of the University of Tartu, Estonia. These two countries were studied specifically due to their economic and political backgrounds and their respective approaches to sustainable development. The hotels were selected according to strict criteria pertaining to their sustainable management history, reporting, labelling and general recognition in the field of sustainable management.

This research utilised a case study approach as a method of obtaining data. The case study was chosen as a way to undertake a contextual analysis of similar situations in multiple organisations. Eleven hotels were selected as the units of analysis for theoretical as well as practical reasons based on the following criteria: (a) the hotels must either have received or be in the process of applying for a recognised national or international accreditation in the field of environmental management systems (b) the convenience in terms of hotel location to undertake the interviews and (c) the approval from owners to share business information and obtain access to primary data. The size and type of ownership of the hotel was not taken into consideration. Rather, as mentioned in point (a), the accreditation became the selecting factor. The authors selected hotels which respect the standards of at least one of the following recognised international accreditation systems: the International Standards Organization ISO 14001 standard, the European Community Eco-Management and Audit Scheme EMAS and Green Key eco label. Both ISO 14001 and EMAS are widely known applications of environmental
management systems (Font et al., 2001). Both the Green Key eco label and the Viabono label have also been selected due to their focus on tourism and hospitality businesses with criteria ranging from environmental management, communication and training. For a country to work with the Green Key eco label, a national organisation undertaking the accreditation tasks of individual businesses must be a member of the Foundation for Environmental Education (FEE). Similarly, the Viabono label is the German umbrella label for sustainable tourism and accommodation supported by the European Eco-label. The authors utilised semi-structured, face-to-face interviews as a method of research. This method, providing more focus than the conversational approach, allows a degree of freedom and adaptability in getting information from the interviewee (Clark, Riley and Wilkie, 1998). The list of hotels where interviews took place can be found under Table 1: Interviewed Hotel Name, Location and Accreditation System. Two hotel properties interviewed do not possess at the time of writing an approved accreditation system but were selected due to their current reputation across the industry regarding their environmental management system and philosophies.

Table 1: Interviewed Hotel Name, Location and Accreditation System

<table>
<thead>
<tr>
<th>Hotel Name and Location</th>
<th>Accreditation System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radisson SAS, Tallinn, Estonia</td>
<td>ISO 14001</td>
</tr>
<tr>
<td>Tervise Paradiis SPA-Hotel &amp; Waterpark, Pärnu, Estonia</td>
<td>Green Key</td>
</tr>
<tr>
<td>Pühajärve Pühekkeskus, Otepää, Estonia</td>
<td>Green Key</td>
</tr>
<tr>
<td>Waide Motel, Elva, Estonia</td>
<td>Green Key</td>
</tr>
<tr>
<td>The Premier Hotel Victoria, Freiburg, Germany</td>
<td>EMAS</td>
</tr>
<tr>
<td>Ökotel, Hamburg, Germany</td>
<td>-in process-</td>
</tr>
<tr>
<td>Scandic Lübeck, Lübeck, Germany</td>
<td>-in process-</td>
</tr>
<tr>
<td>Villa Schaalhausen, Bad Honnef, Germany</td>
<td>Viabono</td>
</tr>
</tbody>
</table>

Following an expert panel review of the interview questions, the interviews were conducted with one key informant: either the general manager of the hotel or the responsible manager regarding environmental matters. Data collection was conducted in spring 2008. During the interview, detailed notes were taken. A decision not to use a tape recorder by the interviewer was based on the intrusiveness of a recording device (Lincoln and Guba, 1985). Several methods exist for analyzing and interpreting qualitative data as identified by Kvale (1996). As the central objective of this study was to help identify current best practices regarding environmental management in a combination of meaning categorization and meaning interpretation methods was used. The aims of the study are to:

1. Create a snapshot of best practices in regards to sustainable management systems
2. Identify the driving influential factors towards the adoption of sustainable practices
3. Assess the perceived economic advantages of sound sustainable practices in these hotels.

In order to achieve the aforementioned objectives, the interview was divided into four general themes, identified from the expert panel review, working as a guiding tool. The first part of the interview covered the general approach to environmental issues, classified as (1) Motivation and Initiatives. The second component of the interview attempted to find out information on (2) consumers and communications. The third section identified issues surrounding (3) energy conservation, water and waste management. Finally, the fourth and final part of the interview expanded on the various (4) marketing strategies.

FINDINGS AND DISCUSSION

The Estonian’s Ministry of Economic Affairs and Communications is reporting a constant growth of the expenditures made by overnight visitors and length of stay in accommodation establishments (MKM, 2007). The increase in visitors undeniably adds pressure to the ecosystem of a destination. In the Estonian case, the natural environment is perceived as a great attraction, as supported by the national tourism authorities (VisitEstonia, 2007b) and considered by many tourists as the motivation for travelling. The Estonian Parliament was one of the first in the world to adopt the Sustainable Development Act in order to create a basis on which sustainable development strategy can be developed and implemented (Environment and Sustainable Development Statistics Service, 2006). In 2001, Estonia started with Green Key eco certification scheme. The very first certificates were issued in 2002 and 20 are now certified (VisitEstonia, 2007c). More than 182
enterprises are currently accredited with ISO 14001 in Estonia and 2 with EMAS (Peglau, 2007). There are no hotels in Estonia currently accredited with EMAS and only one property with ISO 14001 compared with 23 in Germany (Peglau, 2008).

Germany has a long established Hotel Industry. Although it does not have a substantial incoming tourist market the Industry is highly diversified catering for the business customer and for the health and outdoor pursuit desires of primarily domestic short break travellers (Conrady and Buck, 2008). The total revenue of the Industry in 2002 amounted to over 32 billion euros (Hotelier, 2003). According to a survey conducted by Viabono, a national sustainable tourism certification agency, 75 % of German holidaymakers say that experiencing nature is a major holiday motive and the demand for countryside vacations is steadily growing. Germany with its 14 national parks, 13 biosphere reserves and more than 100 nature parks offers enormous possibilities to experience nature (Viabono, 2008). In conjunction with the German National Tourist Board, Viabono, has done much to make the German countryside more accessible to tourists in a sustainable way.

Secondary research shows that there are three key areas (energy, waste and water) where hotels can save resources and decrease the impact on the environment. Due to the scope of the interview questions, only section 3 of the questionnaire, covering best practices in energy conservation, water and waste management are covered in this section, which answers the authors’ first research objective to create a snapshot of best practices in regards to hotel sustainable management systems.

Of the eleven hotels originally selected, the authors have not used the findings of three of the German hotels but have instead chosen to present their environmental initiatives in Table 2: Additional Initiatives of Hotels Not Included in the Findings. While the efforts these hotels are making merit close attention the quest of the authors was to seek out examples of state-of-the-art, best practice.

**Energy Best Practices:** While end-of-pipe efficient technology such as light sensors, thermal protection insulation windows and energy saving light bulbs has become normal practice in accredited hotels, the best innovative practices are to be found in the areas of energy conservation and generation. The Radisson SAS Tallinn (ISO 14001) is currently developing a Building Management System (BMS), which will facilitate the integration of various energy saving subsystems in throughout the hotel, which can be managed centrally. The BMS offers favourable energy savings for the property by switching on or off energy intensive activities such as ventilation, heating and cooling according to a time and requirement schedule. Through monitoring and controlling light fittings and air conditioning units, the BMS will offer beneficial energy savings each month. The daylight-dependent lighting system uses sensors to measure the brightness in the room and reduce the luminous flux of the lamps so that a predefined lighting level is always maintained.

The Premier Hotel Victoria Freiburg (EMAS) has built up energy-generating systems based on renewable sources, including sun, wind, water and timber, supplying itself with emission-free power. The hotel has implemented a solar power plant on the roof of the hotel generating approximately 7000 kilowatt-hours of solar power per year supplying a quarter of the hotel’s rooms around the year. The Premier Hotel Victoria invested in a local wind power plant to ensure constant supply of renewable energy. The solar plant ensures a constant supply of hot water on sunny days for the entire hotel guests’ requirements. A wood-pellet heating system was installed in 2002 to meet central heating and hot water requirements of the 63-room hotel. The pellets consist of wood from local sustainable Black Forest timber production.

Eco-electricity is the only option currently practiced by the Tervise Paradiis SPA-Hotel & Waterpark in Pärnu (Green Key). The Premier Hotel Victoria Freiburg buys eco-electricity that contains a small surcharge from suppliers who support the installation of additional renewable local power generators. The Ökotel Hamburg focused its energy conservation effort at the design stage employing the principles of eco-architecture. The building was built to low-energy-house standards by including the use of natural environmentally friendly high heat insulation material. The roof of the hotel is entirely insulated with cellulose (a recycled paper-type of insulation). In a similar way to the Premier Hotel Vitoria Freiburg, the Ökotel Hamburg produces energy using a photovoltaic (solar)-system.
Waste Management Best Practices: The management of waste must follow strict legislation in both countries whether it is the sorting of waste or the creation of collection stations for glass, aluminium, paper or organic waste. The emphasis is also on hotel properties to create new ways of ‘waste avoidance’. All accredited hotels interviewed have implemented waste sorting stations. The Pühajärve Puhkekeskus Otepää (Green Key) is planning to invest in a new compressor that will allow for a reduction in environmental impact due to the transport of waste. The Premier Hotel Victoria Freiburg focuses on activities surrounding waste avoidance that include the use of dosing system for cleaning agents used in the hotel as well as a series of refillable dispensers for in-room toiletries. All paper utilised on properties, including toilet paper, paper towels, napkins and office stationery are made from quality-recycled paper. All packaging material is returned to the suppliers while other special waste including metal and paint waste is taken to the city’s recycling point.

The Waide Motel Elva (Green Key) actively promotes its waste management activities and informs guests on their active role in reducing, reusing and recycling waste. The Scandic Lübeck has been renovated with sustainable, natural and recyclable materials where possible. Low volatile organic compound (VOC) paints and finishes were used. VOCs are carbon-based molecules (organic compounds) used in a wide range of products, which under normal conditions vaporize, hence the ‘volatile’ component. A high concentration of VOCs, found in some paints, contribute to poor indoor air quality and present health hazards. The Ókotel Hamburg has eliminated all Polyvinyl chloride (commonly abbreviated as ‘PVC’), in pipes and electric circuits. PVC is considered to be one of the most profitable by the chemical industry and a health hazard that requires vast amounts of non-renewable resources by multiple pressure groups. The Villa Schaaffhausen (Viabono) manages waste reduction from the purchasing perspective whereby the hotel and restaurant complex has created an organic garden providing a variety of ingredients used daily in their food and beverage operations, thus reducing the reliance on purchased products requiring road transport. The use of the property’s garden as a sourcing point for fruit and vegetables has a direct impact on waste management, particularly in the area of packaging handling reduction.

Table 2: Additional Initiatives of Hotels Not Included in the Findings

<table>
<thead>
<tr>
<th>Hilton, Munich Park</th>
<th>Holiday Inn, Munich City Centre, (IHG)</th>
<th>Arabella Sheraton Grand Hotel, Munich (Starwood)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Partner of the DEHOGA ‘Energiesparkampgane’</td>
<td>▪ Energy management system</td>
<td>▪ Member of the ‘Öko Profit’ program, Munich</td>
</tr>
<tr>
<td>▪ External energy consulting company is improving the hotel’s energy management</td>
<td>▪ Energy efficient lighting</td>
<td>▪ Property management System</td>
</tr>
<tr>
<td>▪ Energy consumption tracking</td>
<td>▪ Movement sensitive lighting</td>
<td>▪ On demand air condition</td>
</tr>
<tr>
<td>▪ Combined heat and power unit is planned</td>
<td>▪ Key card holder</td>
<td>▪ Energy efficient lighting</td>
</tr>
<tr>
<td>▪ Day/night modus</td>
<td>▪ Latest air-condition technology</td>
<td>▪ Light emitting diodes (LEDs)</td>
</tr>
<tr>
<td>▪ Energy efficient lighting</td>
<td>▪ Solar panels for pool heating planned</td>
<td>▪ Combined heat and power unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Energy management system is planned</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Water consumption tracking</td>
<td>▪ Low flow gadgets in water taps and showers</td>
<td>▪ Towel and linen reuse program</td>
</tr>
<tr>
<td>▪ Rainwater collecting tank is planned</td>
<td></td>
<td>▪ Low flow water taps and showers</td>
</tr>
<tr>
<td>▪ Waterless urinals in back of the house areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Bio water installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Waste</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Waste separation</td>
<td>▪ Waste separation</td>
<td>▪ Waster separation</td>
</tr>
<tr>
<td>▪ All organic waste is sold to a local biogas plant</td>
<td>▪ Refillable soap dispensers</td>
<td>▪ Kitchen waste is specially separated</td>
</tr>
<tr>
<td>▪ Particular attention is given to kitchen waste</td>
<td>▪ Particular attention given to kitchen waste</td>
<td>▪ Organic waste is sold to a local biogas plant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ The hotel donates things to non-profit organization which it would otherwise throw away</td>
</tr>
</tbody>
</table>

Source: Fendt, 2007
**Water Consumption and Conservation Best Practices:** The secondary research indicates that reusing wastewater can reduce the need for fresh water by 50 percent (Greenhotelier, 2006). All interviewees agreed that the use of waste water is very difficult due to hygiene concerns and that incorrectly treated wastewater can be a threat to health. Considering that water is a valuable resource, the best practices are located in the reduction of consumption. The Radisson SAS Tallinn utilises low flow water taps and showers as well as the use of low-flush toilets. The hotel employees are trained to ensure that water is not unnecessarily contaminated during the washing and cleaning activities. Cleaning agents are environmentally friendly and phosphate-free. The Premier Hotel Victoria Freiburg has placed ergonomically shaped bathtubs requiring 30% less water than the traditional bathtubs. The courtyard of the hotel is paved but unsealed allowing rainwater to seep through avoiding unnecessary load on the rainwater drainage system. The Ökotel Hamburg has built a system using rainwater, rather than treated fresh water, for use in flushing toilets.

**CONCLUSION**

Literature provides evidence that there are many technologies, initiatives and processes that bear the potential to increase the operational efficiency of a hotel. Nevertheless, the Hilton, Holiday Inn and Arabella Sheraton hotels in Munich stated that due to budget limitations the key characteristic for implementing ‘green’ technologies or initiatives is profitability. This point of view does not concur with the other hotels interviewed. According to two of the Munich hotels staff attitudes and the confusing number of ecolabels are other factors preventing progress. Out of all the hotels questioned, only one hotel was clearly motivated to acquiring competitive advantage from sustainable hotel management systems.

All the other hotels reported that both cost savings and increased market share have been achieved even though the payback period for environmentally friendly technological initiatives is considered long in some cases. In Estonia, the results in cost saving are pronounced. Hotels report large reductions in energy and water consumed, also sorting trash has helped to reduce costs and guarantee stable prices for the clients. Generally, nearly all the hotels report increases in market share since adopting sustainable practices. Indeed, the manager of the Victoria Hotel in Freiburg reported that 1000 extra bed-nights are sold each year as a result. All the hoteliers agree that a ‘green’ business strategy means more than simply increasing the profits for their companies. ‘Greening’ goes beyond the concept of competitive advantage since it implies benefiting the environment and society. All the Estonian hotels are convinced in sustainable and nature-friendly economic planning. They all believe that green thinking adds positive value to the hotel and that it can create a good reputation and act as a guarantee of good service. None of the German hotels expressed this notion so strongly.

Another conclusion that can be drawn is, that hoteliers are not yet under regulatory pressure from legislature. There are no laws that restrict or punish hotels for their emissions or waste production although this situation seems set to change. Despite varied answers from industry experts there is much proof in literature that employees play a key role in the success or failure of a ‘green’ business strategy. Especially in the labour intensive hospitality industry this factor plays a crucial role. Even though much academic research has been carried out in the field of ‘green’ consumer behaviour the main characteristics of ‘green’ hotel guests are still not clear.

**RECOMMENDATIONS**

Research has revealed that technology can lead to competitive advantages (Porter, 1985) although hotels need to make sure, that the technologies and initiatives they claim being environmentally sustainable, keep their promise before putting into place a green marketing policy. The use of cards inviting guests to keep their towels for an extra day lays hotels open to being accused of ‘greenwashing’ and can damage their valuable brand image. The authors advise hotel executives to carefully think about what technologies are worth implementing and which are not since capital expenditure is often high. Hotel executives should also consider the recycling of equipment. Solar panels for example are environmentally friendly during operation but are difficult to dispose of. Sustainable initiatives are basically processes that help to make the operation of a hotel more efficient, less hazardous or consume fewer resources.
In hospitality, the guest forms an integral part of the product. Hotels, are well advised to start ‘greening’ processes where customers are not involved since it is much easier to improve procedures with just staff. The hospitality industry is a very labour intensive industry. Employees are involved in many processes and work stages and it is necessary for the hotel workforce to apply ‘greener’ processes in their daily jobs. Therefore, convincing employees to apply ‘greener’ processes that save resources, should be top of the hotel executives’ agendas. Training on environmental issues should become a part in each hotel chain’s training program. Department heads should be made responsible for the implementation of those improved processes. Having staff, that are eager to actively participate in environmental initiatives soon brings positive effects such as increased efficiency and financial returns in addition to benefiting the environment.

Literature findings indicate that there is a lack of knowledge in the field of `green’ hotel consumer behaviour. Hotel chains would be well advised, when collecting data about their guests’ preferences, not to forget to assess their environmental concern. Tourists and business travellers are more sophisticated than ever before. As more and more people become aware of environmental issues in their daily life, the trend towards more sustainable hospitality services will increase.

LIMITATIONS & FUTURE RESEARCH

When answering the question which technologies and initiatives increase the sustainability of hotels, this study focused on the three areas of energy, water and waste. Therefore, it chiefly considers technologies and initiatives applicable to already existing hotels. It did not take into account environmentally sustainable building materials. Also, renewable energy sources have not been discussed in complete detail, as those are not the major concern of hoteliers presently. Additionally, the potential of sustainable food and beverages has not been included due to time constraints.

Furthermore, the authors wish to point out the disparity between the hotels interviewed. Although the comparison between Estonia and Germany produced some meaningful results, there is little similarity between the hotel operations interviewed. Consequently, the findings are not automatically transferable to all hotel properties.

‘Green’ business strategy is very new to the hospitality industry. Moreover, the authors are convinced that sustainable hotel management is at the very beginning of its development and consequently provides many opportunities to carry out further research. Many of the initiatives described have been brought from other industries and more work needs to be carried out to find other processes that can be transferred to the hospitality industry. Research in the field of `green’ hotel consumer behaviour should be advanced and there is research potential in the field of ecolabelling and their impact on consumer decisions. The number of ecolabels is ever increasing which results in confusion amongst hoteliers and customers. Lastly, the author sees need for further research in the field of ‘green’ brand management an area as yet untouched by researchers.

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