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Environmental quality management in hospitality industry on the example of Marriott Hotel in Warsaw (Poland)

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Abstract. Environmental management and sustainability have been recent important issues in the hospitality industry. The hotel industry, as a main sector of the hospitality industry, has benefited from environmental initiatives through improving corporate image and increasing resource and energy efficiency. Among various environmental issues that have been addressed in the hotel industry, managerial influence on environmental management is rarely investigated. The purpose of this paper was to examine the current state of environmental management in the Marriott Hotel in Warsaw. Further, this paper also determined a relationship between TQEM managers' personal environmental attitudes and organizational involvement in environmental management practices from the Marriott Hotel Warsaw. To achieve the purpose, the work examined currently adopted green practices, environmental attitudes, and their perception of advantages derived from environmental management.

Keywords: hospitality, quality, management, environment

Introduction

In the period of global competition environment, when a lot of services are offered, understanding the term of quality is transformed not only as an issue that is necessary to be solved but quality is seen especially as a competition opportunity (Ryglová et al., 2013). Hospitality sector is growing at a very fast rate in all over the

world. This sector can be broadly classified into hotel industry, travel and tourism, restaurants, pubs, clubs and bars, contract catering, and aviation. Other than that, hospitality is applicable at various places like in universities, sporting venues, exhibition centres and smaller events management companies. The industry was earlier part of travel and tourism but now it has a separate industry status, similar to aviation industry which was part of travel and tourism, hospitality industry. With the market competition of hotel industry being heated, it is critical that hotels have a breadth of resource and more flexible forms to meet the needs of a changing marketplace. In the past, the relation of total quality management (TQM), market orientation, and performance are equivocal. Environmental management have become one of the most critical management issues facing companies in a wide range of industries as well as hospitality firms as a result of growing environmental awareness among consumers, governments and social groups and employees (Wang et al., 2012). Reflecting this large scale trend, a number of research initiatives have been made to address these emerging issues in the hospitality industry context. The focus has been on identifying environmental management initiatives some green hotels have been making (Kirk, 1995). The identification of motivations for going green has also been the focus of a host of studies (Tzschentke et al., 2004).

Environmental quality management in hospitality

Quality of a product or service can be defined from different perspectives. Evans and Lindsay (2008) present the following perspectives: judgemental where quality is synonymous to superiority or excellence; product-based where quality is a function of specific measurable variable; user-based where quality is determined by what customer wants; value-based where quality is the relationship of usefulness or satisfaction to price and manufacturing-based where quality is conformance to specifications. In addition to these quality can also be customer-driven, which then means exceeding the customer expectations (Vähätiitto, 2010). Quality management has been a widely researched field of study. Managing quality usually relates to improving quality and quality can be improved in various aspects. Different quality frameworks developed propose that investing in quality within a company gives competitive advantage and even improvement in financial performance in the long run. Today when climate change concerns are widely recognized, companies have started to make investments in environmental quality. This can be translated e.g. to terms of improving environmental effectiveness or performance, investing in sustainable actions, improving energy efficiency, creating environmental cost management schemes, creating environmental management systems etc. Despite the differences in their terms and features they all tend to reach the same goal: to improve environmental quality. In addition to being useful for the environment and climate, the organizations investing in environmental quality might also gain cost savings and other benefits in their operations. Most successful examples of environmental management have been in the area of energy management where financial savings act as a clear motivator (Kirk, 1995) having environmental quality in a company thus requires a proper environmental quality management system or smaller subsystems to interpret it to internal or external stakeholders. Different

environmental management system and sub-system schemes exist, depending on the size of the company, on the formalness of the approach and on the industry.

A very important element in understanding environmental management is to understand what the environment is. The International Organization for Standarization (ISO) defined the environment as "the surroundings in which an organization operates, including air, water, land, natural resources, flora fauna, humans and their interrelation" (ISO 1996). Environmental Management (EM) can be said to mean different thing to different people, however Hewitt and defined it as "management of an organization's or company's impact on the environment". Therefore, in this work, EM is 'the process of reducing the environmental impact of an organization or people's activities through the control of all aspects of their operation that can cause or lead to an impact on the environment'.

The figure below (fig. 1) depicts PDCA (Plan-Do-Check-Act) process which plays a significant role in reducing people's impact on environment.

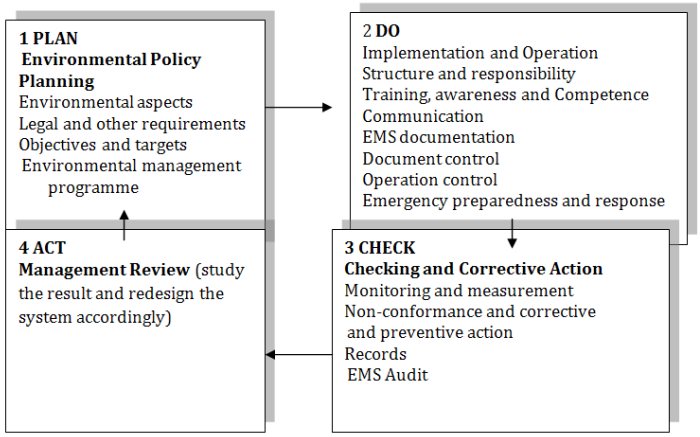

Figure 1. Plan-Do-Check-Act process
Source: The P-D-C-A Cycle for TQEM adapted from TQEM (1993, 7)

It is very important to make all the activities in the order presented to be sure that the negatives as well all the difficulties are being reduced before getting the service to the customer.

The hospitality industry has been traditionally considered one that does not have a great impact on the natural environment compared to such industries as gas and oil, and other consumer product manufacturing industries. However, the hotel sector, in particular, one of the main business sectors in the hospitality industry, generates much more negative environmental impacts than the public perceives, consuming a vast amount of local and imported non-durable goods, energy and water, as well as emitting a large amount of carbon dioxide (Kirk, 1998; Bohdanowicz, 2006). As an emerging business strategy in the hospitality industry, environmental management has been attracting much interest from industry practitioners as well as scholars.

Total Quality Management (TQM) is a quality management system which may have an impact on firm performance in both manufacturing and service organisations (Claver-Cortes et al., 2007). TQEM is an extension of TQM taking in consideration costs and environmental issues (Miles& Russell, 1997) and can thus be seen as a non-standardized environmental (quality) management system (EMS) that may have an impact on environmental performance. There is no single way to implement TQEM so comparing TQEM processes in different companies and the results gained from the programs can be quite difficult. To avoid this, TQEM, such as TQM, can be certified by third-party organization which makes the process more standardised and comparable. For TQM the certification is quality standard ISO 9000 and for TQEM environment standard ISO 14000 (Miles & Russell, 1997).

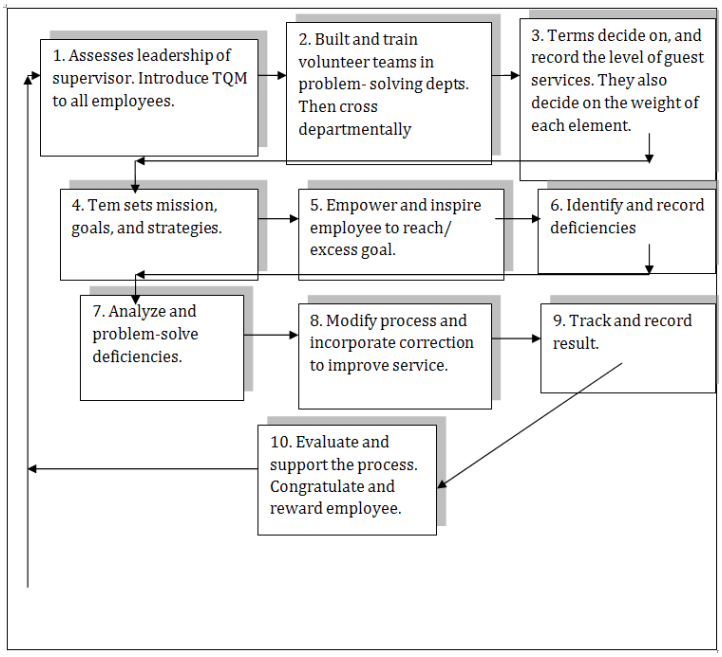

Figure 2. Total Quality Management process
Source: Walker J. R., Miller J., Supervision in the hospitality industry. Leading Human Resources, Wiley 2012, p. 222.

The Marriott Hotel – case study

As a study method, case study research offers greater opportunity than other study methods to gain a holistic view of the study, enables to study different aspects and their relations to each other and also to view the process within its total environment. Case studies can also mix of quantitative and qualitative evidence. A single-case study can represent a testing of a theory that has a set of different propositions (Yin, 1994).

The case organization of this study is a hotel in Warsaw centre in Marriott International. The scope of the research is thus narrowed down to tourism industry and especially to hospitality services. While the research methodology limits the

study to one single case and the empirical part of the research is based mostly on one company's internal factors, consumer viewpoint of environmental quality has been left on smaller notice in this study. While it is generally recognized that people are becoming more aware in environmental sense, improving environmental performance (or internal environmental quality) it will likely result in answering better the customer's needs. However, analyzing the consumer viewpoint would necessitate a larger study related to several hotel operators in order to have reliable results. Therefore it is not coherent to include it to this research.

The LIM Centre/Warsaw Marriott Hotel building was open in 1989. It is one of the most spacious buildings in Warsaw and is not only a high class, five-star hotel with large, modern conference space and numerous exclusive restaurants and bars, but also an A Class office building. The LIM Gallery is located downstairs and houses 40 exclusive shops, cafes, restaurants and a casino. The hotel rooms are located on the top 20 floors and feature 522 updated guests rooms including 95 suites, three concierge levels and on-site parking. The Hotel also has 16 meeting rooms totalling more than 2,600 square meters of meeting and exhibition space and six restaurants and bars. The rest of the 40-story building is occupied by offices and medical canter (Mariott hotel website).

In order to be able to create an environmental management system for accommodation service provider the basic process of the service needs to be described. Separates accommodation services to class A and class B services. Class A services comprise of the components that can be divided by the following physical boundaries presented in table below (table 1).

Table 1. Room class A division

A1 room	A2	A3 Common rooms
A-1-1 bedroom area A-1-2 Private bathroom Etc	Reception administration area	A-3-1Corridors A-3-2 lounges Etc

Source: authors' elaboration Class B services again are linked to tourist accommodation according to following categories (presented below in table 2)

Table 2. Class B services

B1 Food services	Kitchen, restaurant bars.
B2 Wellness & Recreation	Swimming pool ,sauna, sports facilities , solarium etc.
B3 Conferences services	Conferences area, sanitary facilities, administration common room etc
B4 Green area	Garden , park ,fields etc.
B5 Parking area	Indoors and out door parking, transport mean
B6 Shopping services	Supermarket ,others shop
B7 Others services	

Source: authors' elaboration Jones et al [2003] again describe accommodation processes by identifying socio-technical systems in hospitality operations presented in table 3

Table 3. Accommodation process

Operational systems (operation-wide)	Procurement and control, stores, maintenance and

	engineering, environment and waste
Accommodation services	Front office, housekeeping
Food production systems	Food preparation and production
Food and drink service Systems	Foodservice and dining, cleaning and dishwashing, bars

Source: Jones, P., et al., 2003

None of the classifications as such is not enough suitable for analyzing accommodation processes while they are somewhat simplistic as such. However, when combining these accommodation process classifications to a single framework case company accommodation processes can be properly described. The frameworks are combined in a way that each system or service is allocated to certain area of the hotel. The areas are described with physical boundaries, here rooms, common facilities and restaurants, which are derived mainly from the APAT model.

The Marriott Hotel has in addition to hotel room premises also common lounge with a bar, fine dining restaurant and kitchen, conference facilities, gym, play room for children, self-laundry facilities for guests, some office premises and a parking garage. Table 4 presents the services and accommodation processes of the Marriott Hotel.

Table 4. Marriott Hotel services and accommodation process

Type	Room	Common facilities	Restaurants
Physical boundaries (objects)	Rooms and suites	Conference facilities, gym, self-laundry, parking garage, common lounge, play room for children, office premises	Fine-dining restaurant, bar
Systems/ services (activities)	Front office, Housekeeping, Maintenance and Engineering	Housekeeping, Maintenance and Engineering	Food preparation and production, Foodservice and dining, clearing and dishwashing, bars

Source: authors' elaboration

Creating environmental strategy

Energy use is usually mentioned always first in theories so it can be concluded that energy consumption is one of the most important factor of environmental quality. The more energy is consumed, the less environmentally qualified hotel.

LIM Canter/Warsaw Marriott Hotel commissioned a site survey to determine the measures that would best meet their needs. They decided to proceed with a complete, tailor made and turnkey upgrade of the building's heating, ventilation and air-conditioning (HVAC) system which resulted in a complete, reliable and efficiency-oriented solution. Energy use of hotel Marriott was calculated simply by gathering consumption data from energy invoices. The data was then collected to a spreadsheet and analyzed accordingly. So far hotel Marriott is not using any more systemized approach for gathering energy consumption data, such as electronic maintenance books that are commonly used in real-estate business data from the

last four years. Some of the programs and their performance are used in Warsaw Marriott Hotel.

- Re-Lamp" campaign replaced 450,000 light bulbs with fluorescent lighting in 2006 and saved 65 percent on overall lighting costs;
- smoke-free policy announced and applied to Marriott hotels improves indoor air quality and as a result of that, helps save 30 percent of energy use for air treatment systems;
- replacing 4,500 outdoor signs with LED and fibber optic technology saved 40 percent of outdoor advertising energy use in the first year of the program (Marriott International, 2007).

Currently implemented energy management practices are identified in Warsaw Marriott Hotel:

- implementing a renewable energy program such as the use of wind power, solar power, and run-of river power,
- adopting automated (Computerized) energy control system,
- replacing incandescent light bulbs with fluorescent lighting. (Using high energy efficient lighting),
- installing energy-efficient laundry equipment,
- using digital thermostats to control guestroom energy consumption,
- installing occupancy sensors (they automatically turn the lights out when guests leave the room),
- using waste heat from the power generator,
- using energy star-qualified products,
- installing triple-glazed windows or reflective glass to save energy for heating and cooling,
- replacing outdoor and exit signs with Light Emitting Diode (LED) signs.

Water consumption according to Marriott International's linen reuse program, encouraging guests to reuse lines and towels during their stay contributes to saving 11 to 17 percent on hot water (Marriott International, 2007). 100-guest room property with 75 percent occupancy can save an estimated $25,000 per year through a linen and towel reuse program. These savings are derived from an 81,000 gallon reduction in water consumption and 540 gallon reduction in detergent. Using water-efficient devices (low-flow or infrared-activated faucets, low-flow showerheads, low-water-volume toilet, sink aerators, and Energy Star qualified cooking devices etc.) Water consumption rules from Marriott are as follows

- instituting a linen reuse program,
- regularly fixing toilet leaks,
- using water-efficient laundry equipment and dishwashers,
- placing water meters in guestrooms to track usage,
- adopting water saving campaigns in kitchens (washing dishes when there are full loads or not using running water to wash vegetables etc),
- adopting water-efficient or xeric gardening techniques,
- using treated wastewater in garden irrigation.

When it comes to waste production and recycling opportunities, the Marriott Hotel is recycling cardboard for which a cardboard press is used to pack it smaller and the organic waste from the restaurant is recycled as bio waste. Even paper is not recycled in the office premises due to the fact that no paper recycling for businesses exist in the area (only private consumers have the ability to self deliver their paper waste to paper refuse bins). Food & beverage service area in particular generates various solid and organic wastes such as packaging and food waste, aluminium cans, glass bottles, corks and cooking oils. The housekeeping operation also generates cleaning materials and plastic packaging-

Marriott progress for reduce waste is as follows:

- placing recycling bins in all front and back-of-house areas,
- purchasing used or recycled-content products,
- adopting a donation program (leftover guest amenities, old furniture and appliances and food),
- composting organic kitchen waste & using refillable amenity dispensers,
- providing reusable items such as cloth napkins, glass cups, ceramic dished with food and beverage service,
- grinding guest soaps to use as laundry detergent for hotel uniforms,
- purchasing food items and cleaning chemicals in bulk containers,
- recovering used cooking oil and food waste.

The Marriott Hotel does not have a follow-up system for the use of chemicals yet, so the amount and quality (environmental friendliness) of chemicals used is not possible to know. The greatest chemical substance use is naturally due to housekeeping and cleaning. Within this category laundry makes one greatest function where chemicals are used but this is something where Marriott hotels do not have a direct control of. Laundry of linen and towels is outsources at the hotel and therefore the only way to affect to the chemicals used in laundry washing is to lobby the laundry entrepreneur to use environmental friendly chemicals and not excessively. Suggested targets are the ones that are measured in performance part of the model, which are presented the table 5.

Table 5. Environment policy setting target

No.	Performance indicator	Target measure	Reviewed on
Objective 1: Energy	kWh/m2	Less than 310 kWh/m2	Quarterly basis
Objective 2: Water	litter/GN	150 - 170 litter/GN	Twice a year
Objective 3: Unsorted waste	€/m2 and €/GN (in kg's as soon as possible)	0,9 kg/GN	Yearly basis
Objective 4: Chemicals	g/GN	30 g/GN	Yearly basis

Source: authors' elaboration

One target in addition to these is a certified environmental management system approach. It is recommended to set a target for acquiring the Eco-label, while it has most comprehensive guidelines and it is most generally recognized in Poland. With the current figures of energy and water consumption acquiring the certificate would not be a problem but it still necessitates follow-up systems for waste and used chemicals.

The actual environmental strategy should be created with a team consisting of employees from different apartments, such as management, maintenance, housekeeping and front-office staff. With the proposed strategy they should go through what of the actions are feasible to execute in the short run and which might call for longer time to initiate. Separate persons in charge should also be chosen to make sure that each physical boundary and system or service of the hotel's accommodation process is taken properly in consideration and that continuous improvement is happening all the time. These persons should also be in charge of collecting the data and monitoring the actual performance in environmental quality improvement. Strategy proposition for linking environmental actions to service and accommodation processes in the Marriott Hotel is presented in the table 6.

Table 6. Strategy proposition

To conclude, one can present all the environmental quality providing by hospitality industry in a graphic way as follows (figure 3):

	Physical boundaries	Systems /services	Strategy
Rooms	Rooms and suites	Front office, Housekeeping, Maintenance and engineering, Environment and Waste	Diminishing paper use in the front office, giving customers guidance on how to save resources during their stay (e.g. towel and linen reusing), giving customers guidance on shutting down all the electronic equipments while not staying in the room, giving guidance on using the sauna energy-efficiently, offer possibilities for waste recycling, using environmental-friendly chemicals in cleaning, making sure that radiators are adjusted properly in rooms and that room facilities work well
Common facilities	Conference facilities, gym, self-laundry, indoor parking space, common lounge	Housekeeping, Maintenance and engineering, Environment and Waste	Have energy-saving light bulbs in common areas and motion sensors in rooms where light is not needed all the time, offer information on energy saving actions in the hotel, offer environment friendly detergents in self-laundry, offer waste recycling possibilities
Restaurants	Fine-dining restaurant, bar	Food preparation and production, Foodservice and dining, clearing	Offer organic food and food that is produced locally, use energy-saving equipments

		and dishwashing, bars	
Extra services	-	-	-

Source: authors' elaboration

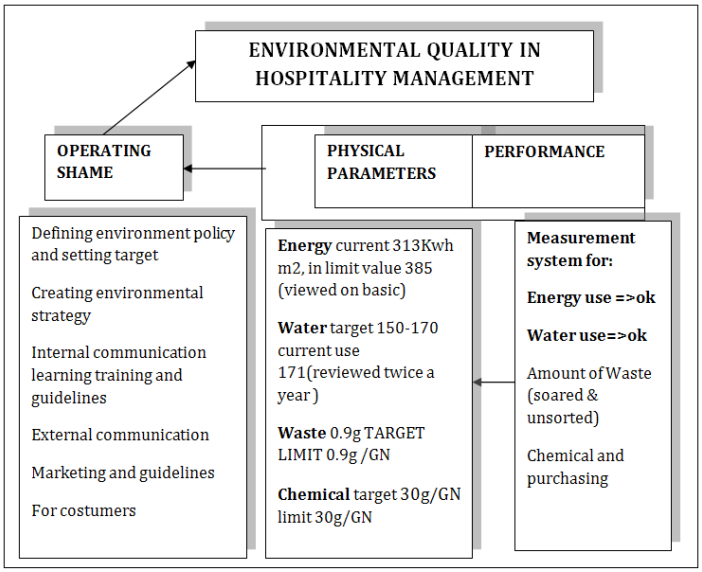

Figure 3. Environmental quality management framework introduced by the Marriott Hotel
Source: authors' elaboration

Conclusions

Environmental management is a growing business trend and a critical strategic issue in a wide range of industries. Governments, environmentally concerned customers, employees, and non-governmental organizations all require business firms to be environmentally responsible. The hotel industry, a main sector of the hospitality industry, plays a significant role in greening of the hospitality practices. Under recent economic conditions, energy and resource conservation practices are getting much more attention from hoteliers than ever before as a way of reducing operating costs and increasing resource efficiency. However, return on investment can be a major concern for hotel managers in promoting green programs for their property.

To sum up, it can be concluded that physical parameters of energy and water are as environmentally friendly as possible at the Marriott Hotel. Energy and water consumption fit easily the limit values determined. Important is still trying to cut down energy consumption as much as possible and measure it with proper ratios, e.g. kWh/m^2. Waste handling and recycling in the region is something a single hotel does not have an effect on but some follow-up systems for the wastes produced at the hotel premises should be developed. The simplest method for this is to follow-up the costs of waste handling in comparison to hotel surface or guest nights. Waste

recycling pilot projects would also be good to test, even if actual recycling is not yet possible. It is not only the customers who should be taught to recycle, but also the employees of the hotel. The same applies for chemicals. Proper follow-up system gives some sort of guidance of how much chemicals are consumed at the hotel. Following the consumption usually also gives a chance to follow the quality of the products, i.e. how environmental friendly they are. Hotel industry has impacts on organizational response to environmental issues. Therefore, in order to promote environmental management in the hotel industry, related organizations, governments, and stakeholders need to focus on raising their environmental awareness as well as providing information on successful cases of environmental management.

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