

Green Accounting Applications in Accommodation Services as a Part of Sustainable Tourism

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Abstract—The main purpose of this research is to indicate the current situation of accounting in tourism together with the viewpoints and applications of natural environment within the framework of social responsibility in accommodation services, which is highly preferred among tourists when choosing a holiday destination and placed right in the center of tourist actions. The qualitative research study involves accommodation companies currently operating in Konya, which is one of the most important tourist destinations in Turkey and visited by 2.5 millions of people, also being an important center especially for religion and cultural tourism. In this study, the purpose is to create awareness among the hotel managements in accommodation services, which is an important determinant for tourists when choosing their destinations, for being more conscious about the environment, besides filling the gap in the related literature. As more studies are conducted, it is believed that the current situation and presuppositions about green accounting of tourism sector in Turkey will bring more general and clearer results.

Index Terms—green accounting, environment, sustainable tourism, accommodation services.

I. INTRODUCTION

Tourism is one of the fastest sectors developing all around the world. However, tourism sector also creates a serious environmental problem for the nature, which is one of its own reasons, due to this fast development. In recent years, sustainable tourism concept has gained interest in such countries and regions with a great tourism potential due to such problems as water, air and noise pollution, waste materials, disturbance of natural balance, land use, etc. Sustainable tourism means that it will be transferred to the next generations by diminishing such problems as the destruction of tourism resources, especially the natural environment and by providing their needs for the future. The increase in environmental problems in recent years has caused an establishment and expansion of environmental conscious over the society. Today, it has become more important thanks to the sensivity of companies to the nature, social sensivity to the environmental conscious and the

regulations put into action by the government to protect the environment. In this framework, the companies are required to take both their economic and social effects into consideration in addition to their activity results realized within the principle of social responsibility. As a result of this, they need to make investments to protect the environment and prepare another entry in their budgets for improving their technologies. The actions against the damages caused by the companies and the studies to prevent them have also brought many innovations in accounting as in many other areas. Environment expenses are not taken into regard in gross domestic products. Besides, ‘green accounting’ applications gained importance due to several legal obligations as the environmental expenses got higher and they required an immediate attention. It became even more important after the globalization of world trade and the popularity increase of international accounting standards today. Here, green accounting defined some specific objectives. These objectives are to make research in order to diminish the negative effects of traditional accounting applications; to define all environmental expenses and incomes separately in a traditional accounting system; to develop new performance assessment results for both internal and external interest groups and to provide new financial or non-financial accounting, information and control systems in order to obtain more environmental benefit from administrative decisions.

II. LITERATURE REVIEW

There have been many studies conducted so far about green accounting either theoretically or as an application. When some of these studies are observed, “Reference [1]” stated the stages to be followed in the future by taking the development and analysis of conceptual discussions in green accounting into consideration. “Reference [2]” explained green accounting as a means of business management. “Reference [3]” summarized the statistical results of a questionnaire developed for the managements at different sector in Izmir province on environmental accounting applications in managements. “Reference [4]” examined the environmentally sensitive accounting in different perspectives and “Reference [5]” examined it

from an environmental company viewpoint. "Reference [6]" evaluated the environmental factors in terms of green accounting and cost. "Reference [7]" investigated the basics of green accounting. "Reference [8]" gave examples from many applications of different countries, in which the companies utilize from green accounting as a new management tool and discussed how to apply it in Turkey.

"Reference [9]" examined the importance of green accounting in terms of the reasons of environmental pollution and actions on environmental protection besides accounting and reporting of environmental data. "Reference [10]" dealt with environmental costs and their reporting. "Reference [11]" examined the concepts, applications and problems of modern green accounting and "Reference [12]" also examined the environmental cost accounting and issues of business strategies.

"Reference [13]" attracted the attention on the importance of green accounting by dealing with hotel managements in tourism sector. They tried to indicate the factors, which decrease the environmental costs in hotel managements after classifying them. "Reference [14]" evaluated environmental waste materials in hotel managements and restaurants in Hong Kong and analyzed them under green accounting framework. "Reference [15]" examined sustainable tourism planning in terms of the interaction between tourism and environment.

III. METHOD

A. Research Model

In this study, semi-structured interview method is used to as a means of qualitative data collection in order to see how sensitive the hotel managements are to the environment and how they apply green accounting concept into their own managements within the framework of sustainable tourism.

The most widely used data collection technique in qualitative research studies is observation, interview and document analysis. The main characteristics of qualitative research studies are that they are sensitive to the natural environment, the researcher is actively involved, there is a holistic approach, all perceptions are revealed, there is a flexible research pattern and inductive analysis [16].

There are pre-determined question titles in semi-structured interview method. However, these questions do not follow a certain order. These flexible questions can be combined with other additional questions, which are not pre-determined [17]. This method is preferred because the authorized person should be sincere and comfortable during the interviews. The purpose is to enable the authorized person under interview to direct its own conversation and to express his/her ideas more comfortably.

B. Sample

In this study, convenience sampling method is preferred and only the hotel managements in Konya centrum are involved in the research. According to the data of Konya Provincial Directorate of Culture and Tourism, there are 18

hotel managements with a management certificate in Konya centrum. 3 of these managements have 5-star, 6 of them with 4-star, 8 of them with 3-star and 1 with a private certificate (Konya Provincial Directorate of Culture and Tourism, 2013).

IV. FINDINGS

The study involves all 5-star, 4-star and 3-star hotels in Konya city center. The only hotel management with a private certificate is excluded. All 5-star hotels are contacted within this study and held the most extensive interviews with their managers. Only four of the 4-star hotels and 8 of the 3-star hotels are interviewed.

A. Waste Materials

All waste materials must be separated in accordance with the Law 1457 as required by the Ministry of Environment. According to this law, 4 different warehouses must be located to store these waste materials. These warehouses must be at locations, in which paper, food, glass and plastic wastes are collected. All five-star hotels comply with this criterion. They designed their food storages as cool air storerooms. This increases the cost for the management. After these waste materials are separated, they must be given to the authorized municipality officers or contracted companies in return for a time card every week. If there is a decrease in the waste materials when compared to the previous data (such as mineral oils), the authorized municipality officers start investigating it. No extra payment is made to the hotels for these waste materials collected by these officers. Waste food and bread are sent to the animal shelters. However, the leftover bread items are re-used in desserts at five-star hotel restaurants.

4-star and 3-star hotels have problems when storing waste materials during their separation. They preferred to store them in four different containers in a single warehouse as they avoid of spending more money for four different warehouses. This causes the waste materials to be mixed up. Some 3-star hotels use an outdoor container for storing other than the hotel building.

The waste glass (light bulbs) and batteries collected are sent for recycle in the hotels. Five-star hotels send these waste materials to Izmir. No extra cost is gathered for this and hotels pay for the delivery cost, which causes a hotel to spend almost \$ 750 per year. It is seen that the light bulbs and batteries are delivered to the municipality officers in four-star hotels and most of the batteries and waste glass items are thrown into the rubbish instead of storing them due to the high cost of warehouses.

It is seen that five-star hotels are more sensitive in terms of plastic items. They purchase their plastic materials from a Swiss company as these plastic items disappear much more quickly in the nature than others. They comply with the standards defined for the use of chemical substances. As a standard, one room can only consume 0,36 gr chemical substance per month. It is observed that the chemical substances used in five-star hotels are between 0.30 and 0.32 daily in average. Hotel managers make their annual orders over this standard (0,36 gr) defined as

normal. They make their purchases in lots at certain intervals and they do not exceed these figures. The difference occurred in the chemical substances unused are deduced from the payment. For example, one of the five-star hotels sell 5800 rooms in average in a month, so it does not purchase more chemicals than $5.800 \times 0,36 \text{ gr.} = 2.088 \text{ kg}$. No extra sensivity is observed in 4 or 3-star hotel in terms of chemical use. They deliver the waste chemicals to the municipal officers after storing them at a certain area, as they are required to keep them. No efforts are spent on re-using them as in five-star hotels. The reason is stated that this causes an increase in the cost of location and personnel.

It is seen in the study that only five-star hotels have gardens in Konya province. Each hotel made a different investment on garden irrigation. One of the hotels built a 500-ton water tank. They keep the rainwater in this tank and irrigate the garden by using this rainwater. Besides, they refine the pool water as required and then use it when irrigating the garden by storing it. Another hotel believes that this investment costs high and contracted with the municipality by decreasing the ton price of water from 4,80 to 1,50 over the city water in Konya. This hotel uses approximately 40 tons of water each day and irrigates the garden 7 months in a year. This indicates that 8,400 tons of water is used each year. The hotel saves approximately \$13.500 per year. According to this data, the re-payment period of a 500-ton water tank is almost 13 years. It is also seen that 5-star hotels cooperate with environmental engineers and these engineers audit them. No investments are made for garden irrigation systems as 4 and 3-star hotels in Konya city centers have no gardens. Besides, they do not cooperate with any environmental engineers as having no gardens.

B. Investments for Environmental Protection

The hotels are asked if they have current or new projects in terms of environmental protection. It is seen that 5-star hotels cooperate with an energy consultant company and are audited at certain intervals. Their heat consumptions are checked via thermal cameras and energy save is made for consumption. The most important investment for environmental protection in Konya is the natural gas heating systems in the hotels. They pollute the environment less as they gave up using coal and fuel oil and they pay less for for heating in this way. 4 and 3-star hotels also use natural gas for heating. However, 3-star hotels have problems in keeping the heat inside. The buildings have no heat insulation, therefore causing a high rate of cost when heating.

There are three 5-star hotels in Konya. However, one of them has a green star certificate in 2010. Other hotels have made necessary preparations for acquiring a green star and already applied for it. The Ministry of Environment and Urban Planning encourages hotels for getting a Green Star. The ones with a Green Star certificate get a 7-8% discount in energy consumption. The energy save obtained by the hotels approximately in a year is \$ 40.000. It is seen that 4

and 3-star hotels have no preparations to acquire a Green Star. Due to high cost of getting this certificate, the hotels find it as the biggest problem. It is even seen that some 3-star hotels have no idea about green star applications.

The chemicals used in the hotels require a MSD report. World Health Organization encourages the use of environmental materials, which are not dangerous for the users. In this view, the organization defines the criteria for this. It is seen that 5 and 4-star hotels comply with this criterion, however, 3-star hotels do not pay much attention to this issue.

The hotels do not use liquid soaps, as it is harmful to the environment. They use solid soaps. Solid soaps are generally for single use and recycled. However, Konya Dedeman Hotel does not throw away the soaps unconsumed at a single use and they store them in a place, and then wash the carpets of hotel by melting them at 70 degrees. This contributes to provide the cleaning cost from waste materials.

The hotels changed their spotlights with energy saving light bulbs. This enabled them to save 80%. The economic periods of materials used in 5-star hotels are pre-determined and they are changed with a new one even though the products with expired periods are still in good condition. But in other hotels, they are changed after they stop working properly.

Hotel managements face with Legionellae disease. These bacteria, proliferated in still waters, settle in showerheads, shower cabins, washbasins and air-conditioner water discharge pipes in hotel bathrooms. 5 and 4-star hotels take necessary precaution against this human-related disease. The water to be used by the guests are heated in 75 degrees and cooled again before their use. The bacteria die during this process. They can only live at temperatures between 20 and 45 degrees. Therefore, the hotels keep the cold water at 19 degrees maximum and the hot water at 60 degrees minimum. The water samples are taken to the tests at certain intervals. The annual cost of these tests for 5-star hotels is approximately \$ 5.000. The hotels apply disinfectants to the still water inside air-conditioners. However, no precaution is observed in 3-star hotels in terms of this disease.

The hotels create some new projects in terms of social responsibility. The most popular one is that newly married couples adopt a caretta caretta turtle, which are among the endangered species today. The couples pay for the period until a turtle hatches from the egg and start swimming in the nature. The total cost is \$ 150. The city woods project and the activities of health clubs increase the sensivity of hotels to the environment.

C. The Capital Reserved for Protecting the Environment

It is seen that 5-star hotels allocate a budget for environmental protection. During the interviews, it is seen that 5-star hotels allocate a budget between 2 or 4% of the annual budget for environmental protection. However, it is also observed that 4 and 3-star hotels have no budget allocated for this item.

D. Temporary Expenditure for Unexpected Environmental Dangers

5-star hotels have a crisis center for unexpected environmental dangers. The 5-star hotels in Konya are chain-hotels, therefore requiring to act in an institutionalized manner. They are intervened over crisis centers. However, 4 and 3-star hotels do not have any action against this issue.

5-star hotel have warehouses for probable sudden floods. The floodwaters are kept inside these warehouses. Besides, there are also precautions against sewage overflows and it is directed to these warehouses instead of directing it to the canalization as wastewater drainage. The connection with the sewage is stopped. After the danger is over, this wastewater stored here is directed to the sewage. In this way, no odor and germs are felt inside the hotel.

All 5 and 4-star hotels are built in accordance with earthquake regulations. However, 3-star hotels have old buildings and also problems in terms of their endurance against earthquakes.

E. Compensations

During the interviews, it is seen that no compensation is paid to the employees due to bad working conditions in any of these hotels in Konya province.

F. Fines Paid Caused by Damages Made to Environment

Frequent audits of the Ministry of Environment and Urban Planning have made hotel managements more sensitive to this issue. None of the 5 or 4-star hotels is fined in terms of this issue in Konya province. The ones with Green Star certificate lose their certificates if they are fined. Therefore, the hotels have taken necessary precautions in this issue. However, it is seen that some of the 3-star hotels are fined due to the discharge of wastewater. It is also seen that 2 of 3-star hotels have ended up in court with the municipality. Again, 3-star hotels are also fined due to storing waste materials outside the hotel.

The hotels are required to get permission if they have live music shows at nights in accordance with the Environment-Noise Regulation, which brings them an annual payment of \$ 1.600. The ones with no permission for live music shows are fined at least \$ 5.000 by the authorities.

G. Other Costs

The hotels get an ISO document to make their environmental sensitivity more official. All 5-star hotels and 2 of 4-star hotels in Konya province have quality certificates. Other hotels do not have these quality certificates. They have made an expenditure required to get an ISO quality certificate.

Moreover, the personnel is trained in hotels not to harm the environment. These training sessions both save energy and protect nature. All hotels are observed to participate into these trainings.

The personnel, employed in 5-star hotels, are honored with a monetary award when they are successful in terms of sustainable tourism.

The hotels are also seen that they cooperate with TEMA (the Turkish Foundation for Combating Erosion, Deforestation and the Protection of Natural Habitat) and organize campaigns at certain intervals to protect the nature.

V. RESULTS AND SUGGESTIONS

It is observed that 5-star hotels in Konya are quite sensitive in terms of sustainable tourism. The reason is that all 5-star hotels are international chain hotels and have the same standard in all areas because of being a member of a chain hotel. The personnel employed serve more consciously and in teamwork. The hotels are seen that they take the criteria to decrease the environmental costs into consideration. They take such precautions as changing present light bulbs with energy saving ones, using wastewater in garden irrigation, using heat insulation around the windows and training of personnel with educational programs.

It is seen that some of the 4-star hotels apply the environmental cost factors just like 5-star hotels do. The other ones are observed that they spend an effort in this issue, but unable to make necessary investment due to their insufficient capital amount. It is also seen that 3-star hotels do not have a sensitivity in this issue, even being unaware of this application. It is understood that 3-star hotel managements are most family-based companies and have a limited number of employees, therefore making it hard for them to comply with the norms of sustainable tourism and to deal with green accounting applications. However, it is seen that they have the infrastructure facility as required by the Ministry and municipality.

4 and 3-star hotels in Konya province must be informed in detail about this issue. After making long-term contracts with banks to use financial resources, they need to reach applicable load opportunities. The Ministry should reinforce its support and donations. The municipality should give logistic support and remove all infrastructure problems. The importance of sustainable tourism for future generations must be emphasized by getting support from the Ministry and the municipality in this view.

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