

Environmental management accounting in service sector

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Abstract

Sustainability is a basis from which all the sectors need to be based, and the guide for all the future thinks to which they are directed in the operation. Environmental management accounting and environmental cost system are two based accounting notions linked with sustainability. This kind of accounting should be a special mechanism that can identify and measure the full spectrum of cost from the production process and then to see the economic benefits, and avoid the negativity. Through this the service sector can integrate the environmental costs and benefits into the sheets, and will make a better business decision making. The case study will present the environmental costs and its distribution in specific hotel system.

Keywords: Environmental cost system, Sustainability, Environmental accounting, Management accounting, Service sector.

1. Introduction

Sustainability is the balance between the environment, equity and economy, (UCLA Sustainability, 2022). Sustainable Tourism refers to sustainable practices in and by the tourism industry. It is an aspiration to acknowledge all impacts of tourism, both positive and negative. It aims to minimize the negative impacts (economic leakage, damage to the natural environment and overcrowding to name a few) and maximize the positive ones (job creation, cultural heritage preservation and interpretation, wildlife preservation landscape restoration, and more), (Global Sustainable Tourism Council, 2022). Sustainable is a basis from which all the sectors need to be based, and the guide for all the future thinks to which they are directed in the operation. For UNEP and UNWTO the sustainability tourism refers to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability (UNEP & UNWTO, Making Tourism More Sustainable – A Guide for Policy Makers, 2022). Sustainable tourism is most popular especially in the last years. This come from the factor that every year the people need more alternative tourism, nature based tourism, eco-tourism, and these will be the mainstream in future years. According to UNEP and UNWTO three aspects are the main to reflect the relation-

ships between Tourism and Sustainability, interaction, awareness and dependency. Firstly the essence of tourism is to provide a brand new experience for visitors, served in a totally new and fresh place, and that involves and interacts with different hosts and local lands and surroundings. Than people can be educated through all the tourism activity and come to realize that the importance of sustainable development, not only in protect local environment and culture, but also be aware of the sustainable issues and apply themselves to the continuous efforts. Many of the tourist activities is founded on a popular site, which visitors can experience in a welcome atmosphere, such as beautiful areas, authentic history, challenged adventure and unique culture. This tourism industry relies upon these properties very much.

2. Environmental accounting in service sector

Tourism is a sector that should be based on Eco strategies, i.e. strategies for environmental protection. The managerial accounting is the main link that should be provide information base for management, and the main subsystem is the accounting of environmental costs.

The main provisions that influenced the development of accounting for environmental costs are based on compliance with the provisions of the EPA (Environmental Protection Agency, 2022).

Unlike the classical approach of classification and coverage of already incurred costs, in the accounting of environmental costs the main emphasis is placed on estimating the costs associated with investing in the protection and improvement of the environment.

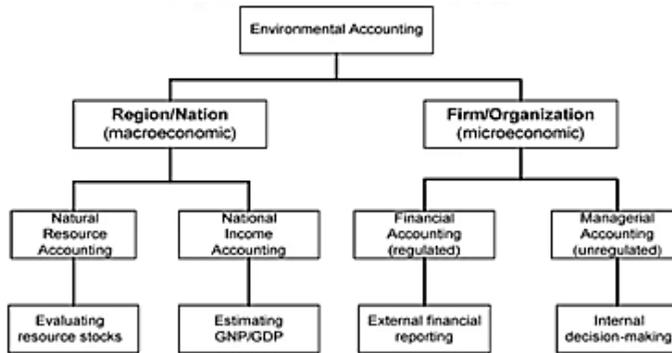
Environmental management accounting serves as a mechanism to identify and measure the full spectrum of environmental costs of current production processes and the economic benefits of pollution prevention or cleaner processes, and to integrate these costs and benefits into day-to-day business decision-making (UN Department of Economic and Social Affairs, Division for sustainable development, August, 2005). The term environmental accounting is often referred to as Green Accounting and these terms are often using in place of sustainability accounting. An important function of environmental accounting is to bring environmental cost to the attention of corporate stakeholders who may be able and motivated to identify ways of reducing or avoiding those costs while at the same time improving environmental quality (Environmental Protection Agency, 2022).

Other authors opine that with increasing social focus on the environment, accounting fills an expectation role, to measure environmental performance (Yakhuo M.&Dorweiler, 2004).

The main purpose of managerial accounting is to record and recognize the costs incurred as a result of investing in the protection and improvement of the environment, as well as the costs of saving and changing resources.

Hence, the content of the environmental accounting is clearly seen and where the eco-accounting occurs within the complete system of the companies Figure 1 (Graff R.G., 2013 Tokyo)

Figure 1. Environmental Accounting Framework



In the picture of Environmental Accounting there are two levels. At the macroeconomics level, environmental accounting is classified into environmental national resource accounting and environmental national income accounting. On the other microeconomic level environmental accounting applies to both financial accounting and management accounting. Financial accounting and its environmental requirements need to be standardized to provide consistent and comparable information to investors, regulators and other stakeholders, while management accounting practices will always vary widely from firm to firm (Okafor, 2013). In this case the management accounting is based on service sector, especially in hotel industry, hence there will be a three basic aspects that is important to perceive, accounting for the protection of the environmental resources, accounting for environmental protection costs and liability accounting (green accounting, eco accounting).

In this way, the basic task of this accounting is to take a good methodology for preparing information that is important for promotion and protection the environment. This will be a good process for processing the data that relating on environmental cost. The data thus obtained are correlated with the corresponding effects. In this way it is perceive whether the guest received the relevant value for the money invested.

3. Accounting understanding of the environmental costs

In order to encourage greater sustainability in the environment and a more serious approach by the hotel industry, it is necessary to build a specific approach in defining the term environmental costs. To take a good decision firstly it is important to recognize the environmental costs.

This would provide a relevant basis for obtaining better quality and timely information for better planning and control, and thus enable the promotion and protection of the environment.

Defining the environmental costs is important for reducing the environmental expenses and increasing revenues. In service sector is always difficult to demarcation a costs, hence improving environmental performance requires paying attention to current, future and potential environmental costs.

It is important to emphasize that the calculation of environmental costs is not a new system of cost calculation. It is a system that should exist in the already existing one and when calculating the costs, it introduces an ecological aspect, which is perceived as an element of cumulating with the input-output position.

Environmental cost as the investment costs, measured in monetary value, allocated for the prevention, reduction, and/or avoidance of environmental impact, removal of such impact, restoration following the occurrence of a disaster, and other activities (Japan ministry of Environmental Accounting Guidelines, 2005).

Moreover, it may not always be clear whether a cost is “environmental” or not, some costs fall into a gray zone or may be classified as partly environmental and partly not. Whether or not a cost is “environmental” is not critical; the goal is to ensure that relevant costs receive appropriate attention (Environmental Protection Agency, 2022).

In case to have better distribution of the costs in service sector EPA and GEMI, paid attention on this and environmental cost primer use similar organizing frameworks to distinguish costs that generally receive management attention, termed the “usual” costs or “direct” costs, from costs that may be obscured through treatment as overhead or R&D, distorted through improper allocation to cost centers, or simply overlooked, termed “conventional,” “potentially hidden,” “contingent” or “image and relationship” costs (Incorporating Environmental Costs into Business Decision Making , 1994).

Conventional costs	Potentially hidden costs	Contingent costs	Image and relationship costs
<ul style="list-style-type: none"> • raw materials • utilities • capital goods • supplies 	<ul style="list-style-type: none"> • upfront environmental costs • regulatory and voluntary environmental costs • back-end environmental costs 	<ul style="list-style-type: none"> • fines and penalties for future regulatory infractions • future costs due to unexpected consequences of permitted or intentional releases 	<ul style="list-style-type: none"> • costs of annual environmental reports and community relations activities • costs incurred voluntarily for environmental activities (e.g., tree planting)

In the previous table are covered the types of environmental costs through the cost centers. This gray scale means the grade of difficult to assess and measure certain of the environmental costs.

4. Traditional vs. environmental cost system

In the conventional accounting system there is two types of costs, direct and indirect costs. Direct costs are for example material costs, labor costs, and direct expenses to a product. On the other hand indirect costs are the costs that are not easily traceable to a product, and here is for example factory rent, energy cost, lubricants etc. These indirect costs are presented by the hidden costs, contingent costs and image and relationship costs.

Here are four steps in Environmental Cost Allocation (Key Concepts and terms, June 1995):

1. Determine scale and scope
2. Identify environmental costs
3. Quantify those costs
4. Allocate environmental costs to responsible process, product, system, or facility

An important think to environmental accounting is to pay attention of the managers to be able and to be motivated for recognition the costs and find ways to identify, reducing or avoiding those costs while at the same time improving environmental quality. Those, the costs that existed in a service sector, especially hotels, need to be differentiated between environmental costs and overhead costs. If this happens then environmental costs will be allocated to the appropriate accounts. Hence, the managers will easily find a ways to prevent and lower those costs and enhance the profitability.

Besides the traditional cost accounting system, the environmental cost accounting system is more specific, and more detailed. Here they are delineated on overhead cost and separately environmental costs. Environmental costs can be allocated to responsible processes, systems or departments. For example solid waste and littering or sewage needs to be separated from overhead costs, and will appropriately belong to special centers of responsibility. According to this the expenses and the revenues will be treated in parallel way.

5. Case study

a. Methodology

This study takes it into account service sector, and examined the extent to which that hotel has embraced environmental cost accounting. It specifically examined the extent to which environmental costs are allocated directly in products/processes and basis of allocation overhead to products/processes. In this research data were collected by the research survey from one 5 Star Hotel by the Ohrid Lake (North Macedonia). Data were collected from primary and secondary sources (questionnaire and conversation) with major responsible person from the accounting center in that Hotel. The questionnaires from the research were analyzed and will be present in below.

b. Analysis of the questionnaire

In this study the following questions need to be answered:

- How do you allocate the environmental costs to the products or processes in the hotel, hence what extent are environmental costs allocated to these products/processes?
- What are the common basses of allocating costs to products or processes from overhead costs in the hotel?

For the first answer, the respondents of the hotel company stated that the environmental costs are usually included in the general costs. What is symptomatic is that the environmental costs incurred by a given product or service will not always be attributed to the conclusion of the product or service, if they were previously classified

as general costs.

From the given answers it can be concluded that the hotel includes the public and informs its staff regarding the policy for green action and environmental protection and appropriate allocation of costs. The hotel does not use energy from renewable energy sources and does not have an energy efficient heating system. However, all other aspects indicate that it is aimed at saving energy and green action. The hotel uses energy-saving lamps, has an efficient shading system, uses timers and motion detectors to minimize energy use, uses energy-saving appliances and of course keeps track of electricity consumption. The situation is similar in terms of water supply. All systems are used that can reduce consumption and minimize water costs, as well as properly inform guests about its consumption. The given hotel uses all the ways for waste selection and its proper disposal, which greatly reduces the utility costs. All other activities within the hotel are aimed at eco-action and minimizing costs.

For the second answer the common bases of allocating costs to products or processes from overhead costs in the hotel is Activity-based costing (ABC) system. ABC system used diverse absorption rates for the absorption of overheads. This system shows the relation sheep between the activities, from one side, and overheads, from other side. What kind of activities need to be taken it depends of costs. ABC represent a method of managerial cost accounting that allocates all internal costs to the cost centers and cost drivers on the basis of the activities that caused the costs (Environmental management accounting, priciples and procedures, Unated Nations Divisions for Sustainable Development, 2003).

c. Hypothesis

The hypothesis in this case study is based on the following access:

- Basis hypothesis: In the Hotel exist environmental cost accounting,
- Auxiliary hypothesis 1: In the Hotel partly exist environmental cost accounting,
- Auxiliary hypothesis 2: In the Hotel doesn't exist environmental cost accounting.

There are three hypotheses in which the case study is based. According to the given answers the conclusion is quite clear. Only the second hypothesis has been proven. In the Hotel partly exist environmental cost accounting and this Hotel needs the introduction of green strategies and environmental cost accounting.

6. Conclusion

Sustainable is a basis from which all the sectors need to be based, and the guide for all the future thinks to which they are directed in the operation. Tourism sector need to be based on strategies for environmental protection. Hence, need to introduce a new term in accounting, environmental accounting. The term environmental accounting is often referred to as Green Accounting and these terms are often using in place of sustainability accounting. In hotel industry to encourage greater sustainability in the environment and a more serious approach, it is necessary to build a specific approach in defining the term environmental costs. It is a system that should exist in the already existing one and when calculating the costs, it introduces an ecological aspect, which is perceived as an element of cumulating with the input-output position.

The case study in this paper explains how exist one hotel of five stars, which are the main activities of sustainability and environmental protection. This was a base for introducing an environmental accounting that not exists there. In the hotel still exist conventional system of cost allocation, they lump all indirect costs into overhead costs and use standard method for absorption the costs into the product/process costs. That indicates the need of activity based costing system, and it will be better way for distributing the overheads to cost units.

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