

# ENVIRONMENTAL MANAGEMENT ACCOUNTING AND THE OPPORTUNITY COST OF ENVIRONMENT MANAGEMENT SYSTEMS

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## **Abstract:**

We all have seen the effects of the global economic and financial crisis and it becomes clearly that major changes have to occur in our economy in order to prevent a crisis in the use of the natural resources that are becoming more and more limited. This is why all types of organizations must turn their attention on the efficient use of resources that an environmental management system offers. Environmental management accounting presents a lot of information to managers within any organization mainly because it looks forward instead of looking back into the history of the firm such as traditional financial accounting does. Our objectives are to enlarge the scope and boundaries of environment management accounting so that managers can make efficient decisions in their organizations.

**Key words:** management accounting, EMS, environmental costs, opportunity cost

**JEL classification:** M 41

## **1. ENVIRONMENTAL MANAGEMENT ACCOUNTING**

Environmental management accounting refers to the field of accounting that successfully offers information to the managers, investors and other internal and external users regarding the firm's impact on the environment. It can be applied to all types of business from micro and small firms to corporations even to non profit organizations.

When it comes to planning the activity of a firm, environmental management accounting systems offers short-term profit through a better use of materials and other resources, can also commit to the protection of the environment in which the firm operates and through the new ISO (ISO 26.000) standards even to social programs. Last but not least considering the environmental impact, it adds value to every business.

Environmental management accounting coordinates various activities with considerable effect on the environment and the human resource that are involved in those activities.

Using environmental management accounting every business can determine whether the environmental goals are met, and if this is not the case, what changes need to occur in order to get back on the environmental protection plan they established before.

In order to establish the cost of their entire operation business managers need to determine what environmental costs are involved in the production of a product or in providing a service.

One problem that managers encounter when they decide to keep environmental management accounting is whether the environmental costs will decrease if the volume of production or services provided will decrease.

## 2. DETERMINING THE OPORTUNITY COST FOR IMPLEMENTING EMS

In any type of organization costs represent a measure of some things that any firm should give up in order to obtain any other thing trough purchasing, exchange or production.

The environmental opportunity cost reveals the cost of stopping performing any activity regardless the environment impact in order to perform activities coordinated with the environmental protection plans established in the environmental management system that the firms chooses to implement.

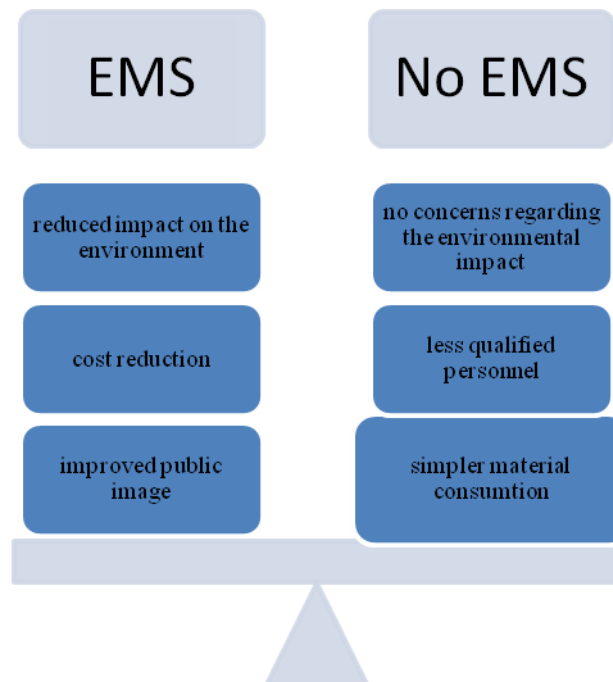


Figure 1. Esthablishing the oportunity cost of implementing an environmental management system

Source: projection made by author

The opportunity cost of implementing an environmental management system strongly tips the balance in favor of implementing an EMS due to its numerous benefits, booth financial and economical benefits as well as social benefits. Among those benefits we find the reduction of costs for materials energy, transport, improving public image, improving working conditions, reducing the impact on the environment.(Figure 2)

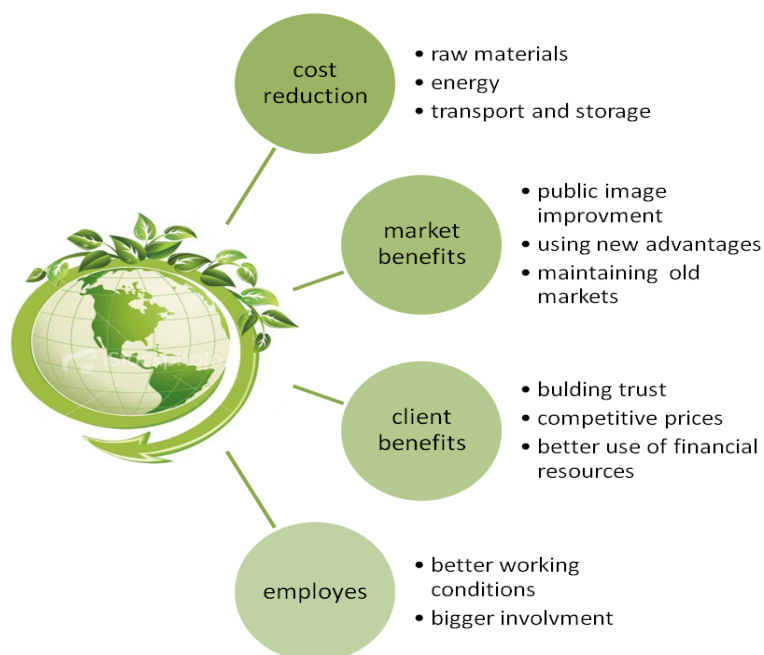


Figure 2. Following the opportunity cost of implementing an EMS  
 Source: A. Artene, *Auditul de mediu*, Ed. Eurostampa, Timișoara 2011

Depending on the activity of each firm, costs can be similar in terms of manufacturing, labor, materials used, but can be different in terms of costs/unit produced or service offered, the amount of workers used in the production process.

We consider that once we established that it is more opportune to implement an EMS, we can determine which process inside our firm has a significant impact on the environment, in other words, which is the opportunity cost of the firm's processes with significant impact on the environment.

In order to determine the opportunity cost of each activity with impact upon the environment, we can establish a minimum scale for which we consider the magnitude and peril for every activity. Therefore the opportunity cost for each activity can be presented as a product between dangerousness and frequency as it can be seen in Figure nr 3.

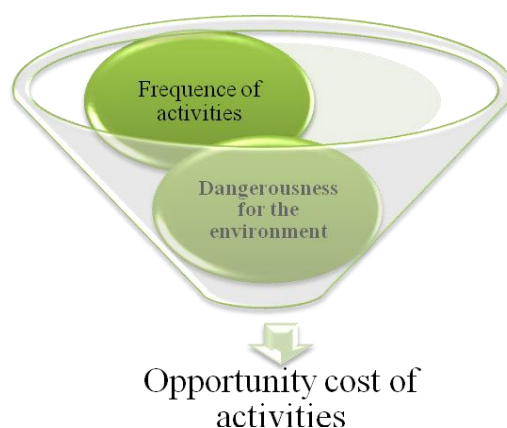


Figure 3. Determining the opportunity cost for each of the firm's activity with impact on the environment

Source: projection made by author

### 3. CONCLUSIONS

By determining the opportunity cost of an Environmental Management System any firm can be made self-aware of the numerous opportunities it has through

implementing an EMS. Any of those systems can reduce operational costs, transport and maintenance; reduce costs associated with waste and losses of material.

We consider environmental management accounting as being part of the entire management system, which includes financial and operational factors along with environmental factors.

Using an environmental management accounting system is a benefit for any firm, regardless its size and financial capability mainly because it offers a large amount of information to managers, information that can be used in the firms best interests. These interests can be materialized into long term financial planning of every activity with a significant impact on the environment.

Determining the opportunity environmental costs helps a firm to maximize its profitability. Inclusion also helps ensure that the company recognizes and accounts for its external environmental costs, especially where it is likely it will be required to internalize these costs in the near future.

Environmental management accounting represents a combined approach which provides the transition of data from financial accounting and cost accounting to increase material efficiency, reduce environmental impact and risk and reduce costs of environmental protection.

Environmental opportunity cost reveals that companies are interested in their costs. Costs incurred elsewhere are of little interest for corporate decision-making. Therefore, the opportunity cost reveals the actual company costs rather than externalities and estimated future price changes.

It is the task firms, not of the government, to ensure that the opportunity cost of implementing an environmental management system reflect the real costs to society.

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