ENVIRONMENTAL ASPECTS IN MANAGERIAL ACCOUNTING

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ABSTRACT

Modern business management plays an important role in spending on the environment, with counting on it to be of great help to corporate executives. The management accounting mission is to provide relevant information to the different levels of management in the areas of planning, decision making, management, performance measurement and control. The relationship between environmental protection and accounting is important because of the new challenges facing companies, since the environmental and social dimension of economic activity is increasingly becoming part of company reporting, which raises the need for measurability and measurement. In the context of environmental affairs, the principle of objective liability has been disclosed, according to which the company must bear financial responsibility for the damage caused by it, irrespective of whether it is guilty of maladministration, negligence or intent on the damage caused. One of the important areas of this can be environmental accounting. In the traditional accounting system, the primary area of environmental protection activity is the cost statement. As environmental accounting complements the traditional accounting system, environmental accounting literature deals with environmental issues broadly. In contrast, environmental benefits appear in few places and are not even comprehensively examined.

KEY WORDS: *management accounting, environmental management accounting*
JEL: *M40, M41*

1. INTRODUCTION

As today's environmental issues are increasingly emphasized in the value chain of society, the management of environmental issues is also becoming increasingly apparent in environmental, financial or accounting regulations. According to the Accounting Act, the purpose of the accounting system is to provide a reliable and realistic picture of the company, where environmental information should now be located. At present, the success of the company is significantly determined by how and by what kind of information the external and the internal interest carriers are provided. As today's environmental issues are increasingly emphasized in the value chain of society, the management of environmental issues is also becoming increasingly apparent in environmental, financial or accounting regulations.

Environmental accounting can be defined in areas of accounting that include activities, methods and systems that identify the environmental problems of a particular economic system or the economic effects of environmental activities, analyzes and includes them.

The management accounting system is tailored to every company in a specific way. The system must adapt to the company's specificities, so it is nowhere uniform and there is no uniform regulation of what it should be. Management Accounting in Corporate Governance provides its controlling subsystem with the necessary information. In order for an effective control system to be built up, it is important to

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have informed information on time and with the necessary information in support of the decisions.

However, to be accurately planned, it is imperative to know certain information, such as the evolution of the costs associated with the environment, or even the position of competitors in the market. The business plan is essential for businesses to start and continue their activity. That is why information derived from management accounting is very important. This greatly contributes to helping managers achieve their goals and resources efficiently.

Management Accounting keeps track of the evolution of costs and returns and their relationship with each other, and examines the causes of the changes through different mathematical methods. One major area of management accounting information is the so-called "*cost accounting*" related to the cost information. In the later part of my dissertation, I will detail and analyze in detail what costs a company might have, with a particular emphasis on environmental costs. Based on our information on management accounting so far, we can say that this is the primary source of information for executives, which answers most of the problems that arise, helping to uncover the source of the problem. Primarily, this part of the accounting focuses on issues related to cost accounting and calculations, and a well-developed company-specific management information system plays a major role in extracting these data.

In the traditional accounting system, the primary area of environmental activity is the cost statement. As environmental accounting complements the traditional accounting system, the environmental accounting literature places less emphasis on environmental costs than environmental benefits.

Sustainability, as a problem, sustainable economic development has become a widely recognized concept with the Brundtland report, when the World Commission on Environment and Development was formed under the leadership of Gro Harlem Brundtland, which was the first major international organization that has persistently pursued the economy and the environment to live together. His primary goal was to improve the future, as the rapid escalation of natural resources meant a global problem for Earth's sustainability.

2. FORMATION AND CONCEPT OF ENVIRONMENTAL MANAGEMENT ACCOUNTING

The concept of environmental accounting has to go back to the economic activity in the natural environment, which has evolved in the concept of sustainable development. With increasing environmental problems, corporate social responsibility becomes the forerunner, and this area of accounting first responds to the framework of social accounting, i.e. the relationship between environmental protection and accounting is rooted in social accounting.

The environmental responsibility of companies led to the development of the area of environmental accounting at the end of the 1980s, and the accounting system was transformed, and management accounting was expanded with another area. The main point of environmental accounting was the emphasis on environmental responsibility, which proclaims not only corporate but also social responsibility. Companies are obliged to provide information to their customers about their relationship with the environment, as it is in the interests of shareholders to collect a lot of information about the company.

Environmental accounting is wide-ranging and covers a number of issues, so we look at it as a collection concept that, in addition to financial and management accounting, also covers national economic processes.

Environmental management accounting relies on an area of executive accounting that has only really developed in the last three decades. Reducing corporate costs is often done through saving materials or saving energy. Environmental protection can also provide added value to productive companies during production. It is of utmost importance that companies should also look at the environmental aspects of environmental investments and, where possible, express their value in money terms.

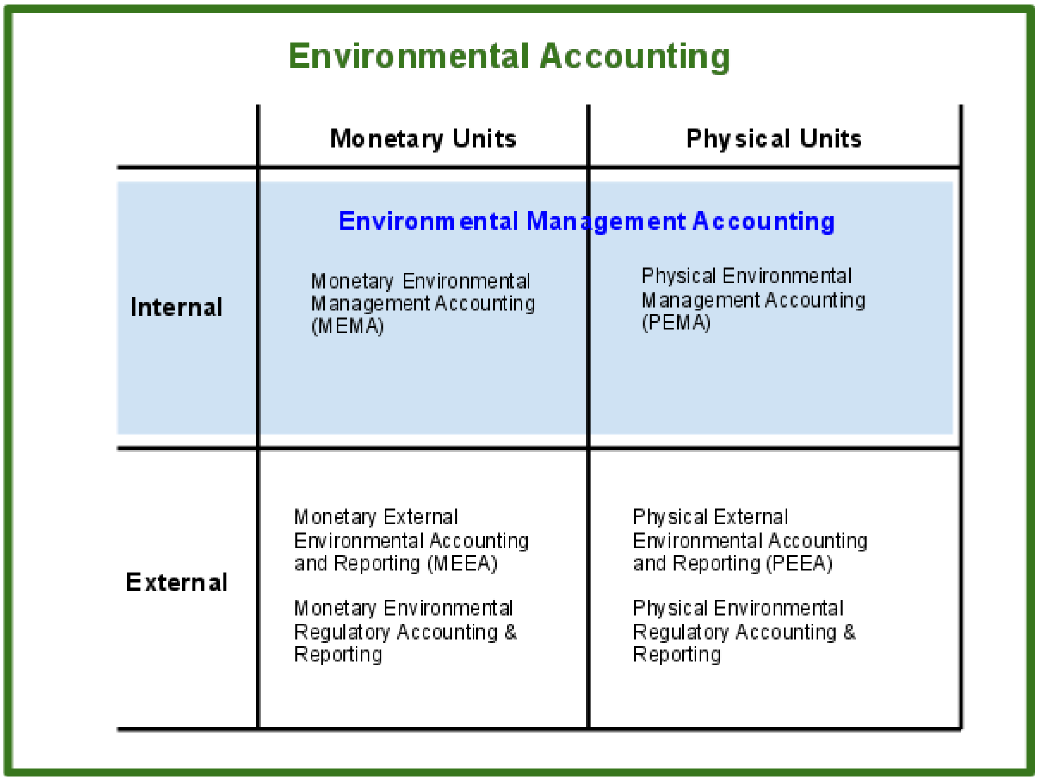

Figure no. 1 The main components of environmental accounting
(*Source*:http://eco-efficiency-action-project.com/tag/environmental-management-accounting/)

Environmental accounting includes activities, methods and systems that identify, analyze and report the environmental problems of a particular economic system or the economic effects of environmental activity. (Schaltegger, S., 1997)

Today, there is increasing pressure on environmental accounting so that companies can integrate it into everyday practice. Environmental accounting is not treated separately from traditional accounting but has an additional function. Its role is to integrate the financial impact of environmental and social affairs into existing registration systems (Schaltegger-Burritt, 2010).

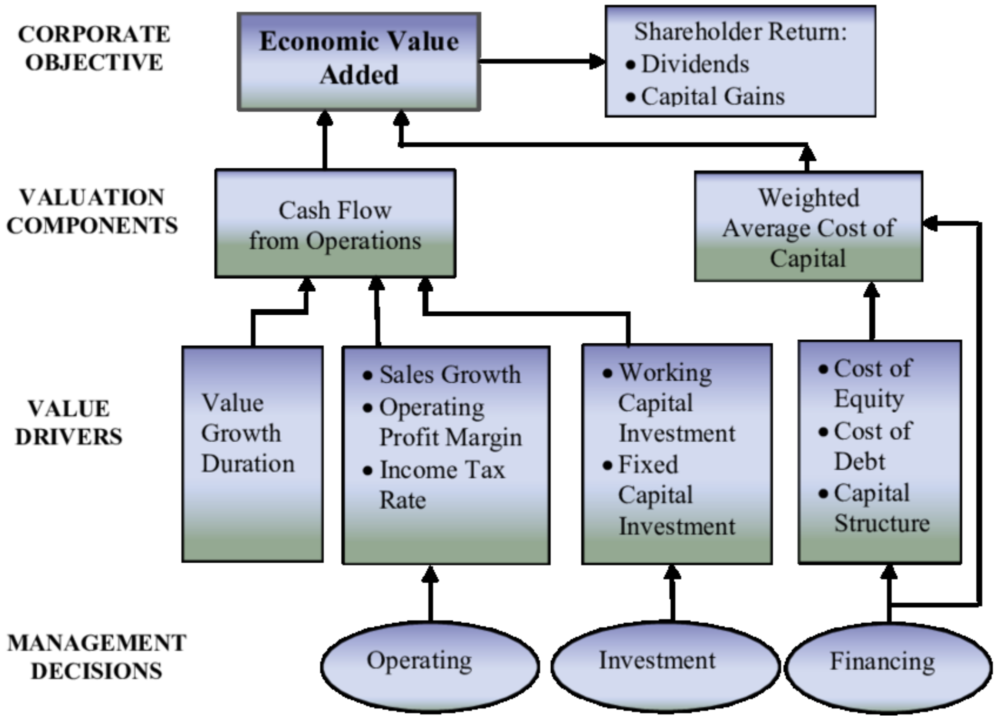

Figure no. 2. Rappaport's ownership value concept
*(Source:*https://www.google.ro/search?biw=1280&bih=617&tbm=isch&sa=1&ei=HwsTWsPPL4L6ASH5q74Aw&q=model+of+Rappaport&oq=model+of+Rappaport&gs_l=psyab.12...157483.157483.0.159658.1.1.0.0.0.0.106.106.0j1.1.0....0...1.1.64.psyab..0.0.0....0.r4YZPMMPlk#imgrc=h1arcGP4uGv2tM)

Rappaport's ownership value concept is well-suited to providing a good basis for a system for detecting environmental benefits across the entire corporate process. Rappaport's model breaks the internal value of the company's value based on the company's discounted cash flow model into value-creating factors. Rappaport separates management decisions related to operational, investment and financing processes that contribute to the increase in shareholder value. It is important to note that environmental activity has an impact on value controllers. For example, the quality of products can affect sales traffic, which is also impacted by an environmentally-friendly product. Environmental benefits are incorporated into managerial decisions and value-creating factors, which make it systematizable and measurable.

In order to make the environmental benefits globally detectable, I took the ownership model of Rappaport (1998). Rappaport's model separates management decisions that affect value of the company through value-creating factors. Thus, environmental benefits from management decisions affecting investment, operating and financing processes are separated. To detect environmental benefits, environmental management decisions need to be taken into account, and environmental benefits are incorporated into managerial decisions and value-creating factors. That is, environmental decisions affect property values through value-creating factors.

Environmental management accounting has evolved from traditional management accounting as a distinct area of its focus on environmental costs and other environmental factors. It helps managers make better decisions by providing information that analyzes and quantifies the environmental impacts of corporate operations.

The tasks of environmental accounting include, among other things, the calculation and analysis of the financial impacts of environmental protection, the interpretation of the return indicators, and the analysis of the effects of environmental factors on the outside world. It is also responsible for identifying environmental expenditures, analyzing environment-related costs, and detailing and demonstrating the financial aspects of environmental issues that help decision-makers to make easier decisions. Furthermore, it is important to identify and analyze the areas that cause environmental risks.

The separation between the management and the financial sector is reflected in the environmental accounting. Financial accounting basically serves the information demand of external interest carriers, and executive accounting is the internal interest bearer. Within the management accounting, the main areas of research are environmental costs, life curve analyzes and input-output analyzes. Within financial accounting, the area of environmental audit and environmental reporting can be highlighted.

In addition to internal decision-makers requiring information from environmental accounting, there is a growing demand from external interest carriers, such as government agencies, other organizations, buyers, and banks. Traditional accounting is not able to provide adequate information on the financial efficiency of environmental activity to both internal and external interest carriers. In order to be able to provide information about an organization's environmental performance, the appropriate data is needed, which in many cases leads to information expressed in physical units.

In-house environmental accounting can be divided into two areas for financial and managerial accounting, just like the traditional accounting system. Environmental issues (including environmental costs, benefits) are becoming increasingly important and affect the global level. The traditional accounting system does not meet the needs of environmental management with adequate information, and space management is the task of environmental management accounting. Traditional accounting can easily detect costs, but environmental performance, environmental costs, and environmental benefits are far from being met.

Environmental management accounting does not exist as a separate entity, but it adds to the existing traditional accounting system with both a monetary and a physical measurement system. Thus, monetary and physical environmental management accounting can be distinguished (UNDSD 2001). Environmental management accounting provides a number of solutions to managing physical and financial information: it only expresses financial data and is complemented by ecological accounting that makes it all physically unified; or both financial and physical units, and rely heavily on both types of data.

3. THE SIGNIFICANCE OF ENVIRONMENTAL MANAGEMENT ACCOUNTING

Numerous companies have recognized that you need to be aware of your environment if you want to be on the market and want to keep your position. The proper use of environmental accounting encourages the implementation of global actions and the smooth implementation of the sustainable development strategy. Environmental management accounting is nothing but an attempt to integrate the best management accounting elements and practices with the best environmental management mechanisms and processes.

Its primary objective is to provide a true picture of the financial side of the environmental business activity, thus responding to the challenges of sustainability. It also includes the detection of environmental-oriented investments, the identification of costs, expenses, revenues associated with the environment and the use of this information for major decision-making.

Three main reasons have become evident in recent years, why it is extremely important for companies to properly manage environmental costs. The first reason is society, as more and more people are awaken to the fact that our environment is in danger and that needs to be changed. The awakening of people into environmental awareness has pointed out that companies need to deal with the environment, and that is why demand for environmentally friendly products has increased. The second reason why companies should focus on environmental elements is that environmental costs can grow enormously. The third reason is the environmental regulations that are constantly increasing and tightening around the world.

For a large corporation, environmental accounting is of the utmost importance, but the return on costs to the environment is a long-term process, which can only be demonstrated through the use of environmental accounting. In the field of environmental accounting, in the last decade, specialization processes have started that deal with employee reports and added value. As a result, there is an increasing need for a single accounting framework. An important criterion for accounting is that it records only the economic events in the books of the company that can be properly documented and expressed in terms of money. Taking into account and taking account of the environmental factors is also very difficult because most of the environmental impacts appear outside the organizations, which means that companies are external or external.

By applying environmental management accounting, managers can more accurately identify, estimate, and allocate cost-related costs to the environment, and find cost-cutting opportunities more easily. (Zelei J., 2007).

Monetary environmental management accounting is a sub-system of environmental accounting that deals only with the financial impacts of environmental performance. It allows management to better evaluate the monetary aspects of products and projects when making business decisions. "'*EMA' serves business managers in making capital investment decisions, costing determinations, process/product design decisions, performance evaluation and a host of other forward-looking business decisions."* (UNDSD, 2000)

As environmental problems are getting worse, the use of environmental accounting, which has many uses, has become important for sustainable development. It supports national income accounting, financial accounting and internal business accounting. It can be said that without the presence of environmental management accounting, the organizations would not be able to properly identify the environmental costs, but fail to do so in the absence of such a reduction. In addition, you can increase your income by investing in the environment.

4. ENVIRONMENTAL COSTS – ENVIRONMENTAL BENEFITS

The biggest challenge in environmental management accounting is environmental management. One of the reasons for this is that the definition of environmental management accounting is unclear and involves a lot of costs in its calculations. Costs associated with the environment are difficult to identify and separate from each other, these costs can only be managed correctly if we know what it can be connected to.

From the accounting point of view, environmental costs are the costs associated with environmental protection or environmental degradation. Environmental costs can include, inter alia, the costs of preventing environmental damage, waste removal, compensation costs, and maintenance costs of control equipment.

It is clear that if environmental costs are not properly counted, they often lead to distortions of the environment for the development of the environment. It is often the case that a simple employee is not fully aware of the fact that manufacturing and emitting waste generates more costs for your company than simply throwing them off. The companies are interested in their actual costs. Costs may be incurred in all areas, but the emphasis is on actual business costs, these actual expenditures are recorded in the books and deduced from their origins, on the basis of which cost calculators are carried out by accountants. These data feed environmental accounting, enumerate environmental costs under a separate hat, and analyze how to reduce them.

For the company, the first question to be answered about environmental accounting is whether the environmental costs incurred and whether they can be identified accurately. The next question to be answered is how to group these costs. In environmental management accounting, there are several methods for grouping environmental costs, some of which are presented in a few lines below. Categorizing into categories, which is, environmental costs, is also an extremely important process, because not all environmental costs are expected to be assigned to performance by the same logic.

Costs that are included in the income statement can be categorized as the usual cost category, and the company can clearly identify them to what they can do. For example, fuel costs, the cost of energy used, or the costs of waste transport. The second group of costs is the hidden costs below which costs are incurred which cannot be calculated by companies and are usually invisible to the company as they simply merge into general costs. Such an example of cost is an example of an administrative and maintenance cost of environmentally friendly equipment, which is usually, recorded in general operating costs, but they exceed the usual costs. Unfortunately we will never know the existence of these costs, but by doing a thorough research work, most of them can be filtered out, identified and thus reduced. (Csutora M., 2001).

External costs are the amount of undesirable adverse reactions (in the environment, health) that the company does not intend to take for any third party to receive compensation from the company.

Unfortunately, there are many types of approaches to managing environmental costs, and unfortunately, it is a disadvantage for things to be unified, so it is a great challenge for environmental accounting professionals to pool and analyze the costs in different cost categories.

Ownership value is a valuation procedure that aims at valuing the company from the point of view of the owners, which is determining the market value of equity capital.

According to the ownership model, the internal value of the company, determined on the basis of a discounted cash flow model, can be divided into the following value-creating factors: the duration of the value increase, revenue growth, the operating margin, the corporate tax rate, the working capital and fixed assets are tied up, and capital cost. (Ván H., 2012)

Corporate environmental activity is affecting value controllers, thus providing a good basis for enumerating environmental benefits, resulting management decisions can result in environmental benefits within the company, affecting the value of ownership through value-creating factors.

Environmental benefits from operating processes are those factors that originate from the reorganization of operating processes within a company and affect revenue growth, reduce costs, or tax rates. The environmental benefits or asset investment associated with investment decisions, or investment in human resources. The environmental benefits associated with financing processes are positively impacting the cost of the company's capital from external sources. (Ván H., 2012)

Most of the times, in company operations, quantify the costs and benefits of environmental investments in calculations for investment. In the traditional management accounting system, both environmental costs and benefits remain hidden. The most widely used environmental cost accounting models in environmental accounting concern environmental benefits at a certain level but do not translate the entire business process and therefore cannot be applied properly in corporate practice.

The analysis of environmental costs has, of course, been common place in many international companies. The modeling of environmental benefits is narrowly concerned in the literature, and in corporate practice it is more likely to be used to calculate investment decisions.

Rappaport's ownership value concept is well-suited to providing a good basis for a system for detecting environmental benefits across the entire corporate process. Rappaport's model breaks the internal value of the company's value based on the company's discounted cash flow model into value-creating factors. The concept builds on accounting bases and uses the company's future free cash money as the basis for evaluation. Rappaport separates management decisions related to operational, investment and financing processes that contribute to the increase in shareholder value. Environmental activity also has an impact on value controllers. For example, the quality of products can affect sales traffic, which is also impacted by an environmentally-friendly product. Environmental benefits are incorporated into managerial decisions and value-creating factors, which make it systematizable and measurable.

5. CONCLUSIONS AND RECOMMENDATIONS

Traditional accounting systems do not deal with social and environmental impacts, are unable to detect them. Therefore a more emphasis should be placed on sustainability accounting that goes beyond environmental accounting, both for researchers seeking ways and practices that can be used in practice, and for companies to make decisions based on information provided by sustainability accounting to contribute to their economic, social and environmental sustainability and this will allow them to survive in the long term.

The primary task of management accounting is to provide key managers with key information that will help make a well-informed decision. In determining the company's outcomes, it also has a tremendous role to play, as it enables managers to properly measure the effectiveness of their decisions.

To get acquainted with environmental management accounting, the idea of sustainable development is closely linked. In order to be able to associate a meaningful sustainability report, it is necessary to link the necessary units of measure and indicators.

By applying environmental management accounting, the company has access to information that plays an important role in decision-making, where the environment is heavily affected. With environmental accounting, companies are able to identify, analyze and ultimately save on environmental costs. However, complex environmental problems are not enough for environmental management accounting alone, but they need to find a more complex solution as it is not an easy way to transform corporate goals that could create a sustainable economy.

Environmental costs can be grouped in several ways, but you need to know the exact cost of that cost. The most common problem is that most environmental costs are shown in general costs and are therefore hidden for the company. Several models can be found in the literature for the detection and registration of environmental costs. To detect environmental benefits, environmental management decisions need to be taken into account, and environmental benefits are incorporated into managerial decisions and value-creating factors. That is, environmental decisions affect property values through value-creating factors.

Because the environmental management accounting system can produce verifiable results in the long run, it does not necessarily happen to integrate it into the company. It is very important for organizations to understand the need for a system, which near the environmental cost can demonstrate environmental benefits also.

For realization of sustainable development, the chances are small and trends are moving in a negative direction. Many thing need to be made to change this, but it can be said that corporate and social efforts are moving in a positive direction.

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