Environmental Cost - An Environment Management Accounting Component

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Abstract
The present article intends to highlight the importance of the impact of the economic activities on the environment, and of its integration in the decisional and financial system of the national economic entities. During the last decade, a new challenge has appeared for the professional accountant, namely that of the environmental accounting, meant to maximize life quality. Environmental accounting is a global concept, and, from the perspective of the impact of the economic activity on the environment, the authors consider the environmental cost as the essential instrument providing the information volume and quality necessary to the managers on different hierarchic levels of an economic entity for the assessment, identification, analysis and recording of the impact produced by the economic activity on the environment, and the use of such information in the financial and decisional process of the economic entity. Within this context, we intend to show the effect of the activities carried out by the Romanian economic entities on the environment, by means of the environmental cost. Having as a starting point the stage of the researches carried out in the literature regarding the environmental cost, made by different experts, we intend to prove the opportunity of knowing the current, future and potential environmental costs which, actually, represent the starting point, both in the achievement of the objectives of reducing the environmental expenses, and in the intensification of the processes of recovery and improvement of the financial and environmental performances. Thus, the environmental cost may be considered as the essential instrument in the identification, recording, analysis and assessment of the impact produced by the economic activities on the environment. At the same time, the environmental cost is what warns the manager on the mode of generation of profit or loss from the activity carried out by the economic entity - resulted both from the current activity, and from that of the financial exercise. Also, the environmental cost is the instrument providing us with a clear and real picture on the mode in which the environmental factors influence the activity of the economic entity.

Key words
Environmental accounting, environmental cost accounting; environmental cost; environmental performance

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1. Introduction

The term of environment was used at the beginning of the 19th century in its biological meaning – that of natural surroundings of the living souls – and later, in its geographic meaning, being defined as a space inhabited and influenced by man. During the last decades, the concept of environment was used by a remarkable diversity of definitions, of which some were more synthetic, others more analytical, generating broad discussions among the experts of the field, who are anxious to assign it a concrete – as concrete as possible – and more coherent content. No matter how the environment is called, it is and has to permanently remain in the individual’s and collectivities’ attention, as one of the major problems of mankind. After Romania had adhered to the EU, environmental accounting was imposed as an absolutely necessary instrument in the substantiation of the managerial decisions, by the provision of specific data
and information, both in physical units, and in monetary units. Long ago, the society’s welfare was considered to depend on the capital and work resources, only, the earth being considered an inexhaustible source of raw materials, energy, water, without taking into account the value of the external damage of an economic or social entity on the environment.

Out of the researches carried out up to now, we may conclude that the environmental problems which mankind faces at present are as follows: climatic changes, ozone layer depletion, soil degradation (erosion and desertification), water resources, forest resources, wastes, fish resources, eutrophication, combustion, toxic contamination, urban environment quality, biodiversity, and landscape. Today, the society has increasingly begun to be aware of the fact that the policies promoting the economic development without including as a prime component the protection and correction of the environmental factors, on their primary agenda are destined to fail. More and more, environmental accounting is considered a managerial instrument, usable in many domains, such as: cost management and control, increasing the efficiency of performance investments in relation to the environment, improving performance in relation to the environment, promoting less polluted products and more ecological production processes and improving the efficiency of the investments in less polluting technologies etc.

The greatest shortcoming of the economic policy of the past and of the present, as well, has been its incapacity of taking into account or of establishing the value of the external damage costs of an economic or social entity. Just as any economic entity wants to improve its service quality for strengthening its manufacturing process in the long run, similarly for the Earth ecosystem certain investments must be applied for it to be a healthy ecosystem. Their non-application will trigger the degradation of the planet and, implicitly, the decrease of the health condition of each of us. People must understand the fact that, for an environmental benefit or for avoiding any environmental damage, we all must pay, first for the individual welfare, and second for the collective one, as well as for the well-being of the whole planet. For the accounting of the environmental degradation, it is useful that a national “balanced assessment” should be elaborated, which should concur to the real and correct measurement of the viability of the economic activity of an entity.

2. Literature review

Environmental accounting has become a new challenge for the professional accountant, in order to maximize the welfare of mankind, and the necessity of the use and implementation of environmental accounting by the economic entities is more and more obvious. Thus, the environmental accounting objective may be defined as that of correctly assessing the impact of the activities carried out by the productive economic entities, local and governmental collectivities, on the environment.

The analysis of the “environmental cost” concept has represented the subject of numerous discussions of the worldwide organizations, which were later taken over by the Romanian ones.

In the foreign literature, the environmental policy is defined as follows: “a process carried out or not by the Government, meant to manage the human activities for the prevention of the negative effects on nature and on the natural resources, making sure that the modifications caused to the environment do not produce harmful effects on it”. The environmental policy of the developed countries has not been left a subject to chance, but has been imposed by the application of a diversity of regulation instruments, such as: permits and licenses, the direct control of the impact on the environmental factors, and standards, respectively. The first foreign author who criticized the traditional methods for cost calculation at the beginning of the 1970s - due to the fact that they took into account only the products and services traded on the market, without considering the free services provided by nature - was Bertrand de Jouvenel. In 1974, the first environmental accounts were established by Norway, on the occasion of the oil resources discovery, which accounts had the role of management of the resources generated by the land use. Later, between 1989 and 1991, the Dutch opinioned that, the natural resource accounts had to be included in the economic analysis of the economic entity, which fact later led to the birth of NAMEA (National Accounting Matrix including Environmental Accounts) and to the introduction of the accounting system for the environment. Thus, the environmental accounting originally developed as a means of management and pilotage of the economic entity, meant to answer its immediate needs, and later
became a means of informing the employees, associates and/or the third parties. In 1997, environmental accounting is divided by author Mathews R. into three distinct evolution periods, as follows: 1970 – 1980; 1981 – 1990; 1991 – up to the present. This division is largely debated on the Romanian national scale, by I.A. Ienciu (2009), who regards the third period as the one between 1991 and 2000, and a fourth period is the one from 2001 up to present. Actually, environmental accounting has represented the subject of numerous studies, some of them questioning the techniques of integration of the environmental information within the accounting system, and other studies have given environmental accounting the name of assessment instrument of the environmental performance, substantiating the managerial/decisional process.

Thus, on the Romanian national level, the literature mentions – as a reference year – the year 1990, when the development of the environmental policies within the Ministry of the Environment was imposed, which policies were based on the economic and social dimensions of the long-lived human development, even though at the beginning, such an action was carried out rather shyly, by means of the framework Law no. 137/1995, on the environmental protection. While, until 1990, control instruments had been used, after it, the economic instruments succeeded in highlighting the importance of the pollution costs. Moreover, on a national scale, after 1990, to support project elaboration within the Action Plan for Environmental Protection, an Environmental Fund was established, which was stipulated by Law no. 73/2000. The responsible body for the Environmental Fund is the Environmental Fund Administration – a public institution, juridical person – wholly financed by own incomes, under the coordination of the Ministry of the Environment and Climate Changes. In time, a whole series of organisms have been concerned by the definition of the environmental costs and have admitted the difficulty that may occur in the determination of the elements it contains.

Thus, the Group of inter-governmental work experts regarding the International Accounting Standards (ISAR) has considered the definition of the environmental costs rather arbitrary and, therefore has concluded that the elaboration of a guideline is necessary. Another organism, named Consultatory Accounting Forum defines the environmental costs as being those costs whose actions carried out by an economic entity or by others, on its behalf, for the prevention, reduction or reparation of the damage caused to the environment, as a result of the activity of an economic entity or for the conservation of renewable and/or non-renewable resources.

Also, the Environmental Protection Agency defines the environmental costs as “those costs that have a direct financial impact on an entity (internal costs), as well as the costs that have an impact on the society and the environment (external costs)”. At the same time, it considers environmental costs as: “actions carried out or to be carried out for the responsible management of the environmental impact of a company’s activity, as well as other costs obtained as a result of the company’s environmental objectives”. Environmental cost is defined in the literature as “a universally accepted economic category, which represents that share of the uses that compensates the consumption of means of production and of manpower, under organizational and managerial technical conditions, for the obtaining of environmental services”. It has become increasingly obvious that the identification of the environmental costs pertaining to a product, work and/or services and their recognition in the accounting of the economic entity is absolute necessary for making correct decisions from a managerial perspective.

From all the above-mentioned definitions, we may notice that one of the most debated perspectives is that of the inclusion or exclusion of losses, receivables, fines, penalties etc. from the company’s environmental costs. Thus, the criterion that we must use and keep in mind for defining an environmental cost is the “externality”. The prejudice caused by an entity’s activity on the environment, on the prevention and reduction of such a prejudice by the whole collectivity represents an “externality”.

Thus, we may state that an environmental cost is to occur the moment the entity is to internalize externalities, taking in its responsibility the cost of the prevention or reduction of the environmental degradation.

Thus, environmental costs represent the total expenses borne by an economic entity, voluntarily or as a result of the legal settlements, for the protection and/or recondition of the impact that the activity carried out by an economic entity exerts on the environment.
Between the environmental cost and environmental accounting, we may not establish equality. Expense is synonymous to a payment representing a cash flow, and the factor deciding that an expense constitutes a cost element is the consumption. The difference between the two indicators consists in the fact that, on a cost level, only material and labour consumptions for a certain period (month, year) are included and the expenses contain the whole financial circuit caused by the environmental actions. Once the increasing problems regarding the environmental protection admitted, the organisms in the field have begun carrying out all kind of actions in this respect, so that the Governments were determined to agree on the introduction of mandatory standards for the recondition of damage caused to the environment. Information on the environmental costs is determined in the whole managerial process for substantiating reliable decisions regarding the production cost modeling.

3. Research issues

Starting from questions like: “What do we want to get? Why is the integration of the environment in the financial and decisional system of the economic entity necessary? How can we reflect, respectively integrate, environmental accounting in accounting? Who benefits from what we realize?”, in the study carried out, we have taken into consideration the way in which actions of integration of the environmental issues in the financial-accounting system are defined and take place, using logic and cooperation in the description of the respective actions. The answer to the first question is related to the objectives that a researcher must establish for their accomplishment.

The answers to the formulated questions regard the existence of the need to include the environmental cost in accounting, by means of environmental accounting, the beneficiaries of this action being - beside the nature/environment - the whole population, both from a national level, and from the international level. The dissemination of the environmental issue, in the last decades, is due – on the one hand - to global warming, and - on the other hand - to the fact that, for a long time, the environment was considered invulnerable, but, as a result of the exploitation and of the excessive and irrational use of the natural resources, man finally become aware of the error in which he has been and, at the same time, he has begun to realize that his irresponsible actions on the environment have consequences both on the environmental balance, and on the environment, directly.

At the same time, a starting point in this scientific action was the fact that, for a long time, in the traditional accounting, the environment could not find its place, since the economic activities were carried out without taking into account the effects that they produced on the environment, intending the obtaining and measurement of the economic performance in its different forms. As a result of the research carried out, we consider that the implementation of the environmental cost, on the one hand, stimulates the productive economic entities to become competitive and be reactive to the requirements of the society in which they have carried out their activity, and, on the other hand, managers are becoming more and more aware of the necessity of making decisions in a well-reasoned mode, in the direction of subjecting the natural resources consumption to accounting, as a result of their inexhaustible character and environmental degradation.

4. General considerations on the environmental costs

Following our research, we consider that, on the management accounting level, environmental accounting brings a plus value as follows: new opportunities are discovered, that is innovations on the activities related to the environment, like recycling resources and their use in other activities; it may contribute to the diminution of the environmental cost; it may contribute to the improvement of the price policy; it may contribute to the improvement of the decisional process by the creation of an optimum informational support, namely the separate accentuation of the environmental costs, which leads to an increase of the economic entity profitability, as well; it contributes to the improvement of the quality of the environmental internal/external reporting by means of the environmental costs that are based on the data/information regarding the impact on the environment of different producing activities of an economic entity; it helps increase the competitive advantage of a productive economic entity by means of the environmental management accounting and, respectively, of the specific advertisement, by publicizing, in the media, the efforts of reducing the environmental costs, which constitutes a capital of
image favourable to the respective entity; it contributes to personnel attraction and motivation; due to this, social benefits increase, that is the whole population of a country and extrapolated, of the whole planet can win from a health-related perspective, by breathing fresher air. All these positive aspects may be included in the entity’s annual budget and be distinctly emphasized, in management accounting, by means of distinct/analytical accounts.

A professional accountant must be capable of making the decision of the separate recording of the environmental expenses, in order to have a clear situation and to be able to provide the manager with information that should allow him/her to make the best decisions, being fully informed on the economic entity he/she leads. It is impossible that productive activities be carried out without having negative effects on the environment. In this respect, we consider that each economic entity yielding products, works or services - having a negative effect on the environment - must provide information regarding the policies, programmes, environmental objectives implemented on the entity level, expenses employed in this regard to reduce the negative effects on the environment, ecological risks that it copes with and estimation of the financial impact of these risks.

Since the estimation of an economic entity’s value is possible only by means of the accounting, and the environmental issues can be assessed from a financial perspective, also, by means of the accounting, managers need to follow the legal settlements into force and those which may appear as a result of the pressures coming from the parties concerned. Thus, the need for the managers of the productive economic entities to obtain as pertinent as possible (correct and real) information on the environment has led to the development of a new decisional instrument, namely the environmental cost accounting, named in the literature EMA - Environmental Management Accounting.

The objective of the environmental cost accounting is to allow the economic entities, local and governmental collectivities, to have a correct assessment of the impact exerted by the productive activity of an economic entity on the environment. Therefore, the totality of the expenses borne by the productive economic entity - voluntarily or as a result of the legal settlements into force - for the recondition or protection of the environment as a result of the activity carried out are based on the environmental costs. In other words, environmental costs were at the basis of the environmental accounting, which, in time have received a different classification, according to certain variables.

A classification, according to the variable of environmental information, is given by the United Nations Division of Sustainable Development (UNSD), which contains five distinct economic groups: unused materials, wastes and emission treatment, costs for the non-production processing, environmental incomes, environmental management and pollution prevention. According to Farley L. and his collaborators’ theories, environmental costs contain a number of other costs, as well, such as: assessment costs, prevention costs, correction costs, control costs and public image costs.

In the year 2000, UNSD planned the development of environmental accounting in organizations, first of all due to the pressures exerted by customers, investors, local and governmental communities over organizations, for the latter to improve their environmental performance. As a result of these pressures, environmental costs and benefits become an essential element of the organization’s decisional process. UNSD classifies the environmental information into five groups: wastes and emissions treatment, pollution prevention and environmental management, unused material, costs for the processing of non-production and environmental incomes. According to International Federation of Accountants (IFAC), the costs considered as environmental are given in Table 1.

Table 1. Classification of the environmental costs, according to International Federation of Accountants (IFAC)

<table>
<thead>
<tr>
<th>No.</th>
<th>Cost name</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Material costs for products and services</td>
<td>Costs for the purchase of natural resources such as water and other resources used for the achievement of products, sub-products and packages;</td>
</tr>
<tr>
<td>2.</td>
<td>Less tangible costs</td>
<td>Internal and external costs related to the harder and harder identifiable elements, such as future debts, determined by certain settlements, productivity, company’s image, relations with the internal and external users;</td>
</tr>
</tbody>
</table>
Environmental costs

<table>
<thead>
<tr>
<th>No.</th>
<th>Cost name</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Costs for research and development activity</td>
<td>As well as other costs related to this activity;</td>
</tr>
<tr>
<td>4.</td>
<td>Costs for wastes and emissions control</td>
<td>Cost for the wastes’ manipulation, treatment and disposal, costs for recondition, the compensation paid for the damage caused and all the other conformity costs</td>
</tr>
<tr>
<td>5.</td>
<td>Costs for environmental prevention and management</td>
<td>They include the costs for the prevention activity, like the cleaner production projects, costs for other environmental activities like management and planning of environmental systems, actions of communication of the environmental information, any other relevant activities</td>
</tr>
<tr>
<td>6.</td>
<td>Costs for the unused material in the production process</td>
<td>Cost for purchase (and sometimes for processing) of energy, water and other materials that are lost during processing (wastes and emissions)</td>
</tr>
</tbody>
</table>

Another classification of the environmental costs is the one done by Emery, which is given in table 2.

Table 2. Emery’s classification of the environmental costs

<table>
<thead>
<tr>
<th>No.</th>
<th>Environmental costs</th>
<th>Internal costs</th>
<th>External costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Include the costs for the remake and restoration of the zone, wastes management or other costs for the environmental quality</td>
<td>Reflect the impact of the company’s activity on the society and environment, at present and in future (soil and air pollution, water contamination etc.)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Direct costs - those determined by the activity specific to the zone, kind of pollution or programme of prevention of pollution adopted for the wastes management.</td>
<td>Indirect costs – formation of personnel, research-development</td>
<td>Eventual costs</td>
</tr>
</tbody>
</table>

In practice, beside these environmental costs, there are other kinds of costs, like the ones given in table 3.

Table 3. Different environmental costs

<table>
<thead>
<tr>
<th>No.</th>
<th>Environmental costs</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Conventional costs</td>
<td>They occur further to the use of raw materials, of capital assets and may be found in the cost accounting and in the investment budget but they are not usually considered as environmental costs. It is preferable that these costs should be much diminished and be taken into account in making decisions.</td>
</tr>
<tr>
<td>2.</td>
<td>Potentially-hidden costs</td>
<td>They are the costs borne before the production process is run; as they are also considered indirect costs, they may affect the processes for the analysis and decision-making regarding the operation.</td>
</tr>
<tr>
<td>3.</td>
<td>Unforeseen costs (costs for the bearing of unforeseen fines)</td>
<td>They are those costs which may be required by the future activity such as: expected value, dimension or probability for them to exceed a certain level such as: recondition or remake of damage caused by a future accident that is to pollute the environment, fines and penalties for the breaking of future settlements etc.</td>
</tr>
<tr>
<td>4.</td>
<td>Costs for the economic entity’s image</td>
<td>They may include costs for the annual environmental reports and for activities for maintaining the relations with the community, which costs are assumed voluntarily for an environmental activity like the selective collection of wastes.</td>
</tr>
</tbody>
</table>

By analyzing different classifications of the environmental costs, made by experts in the environment field, we express our opinion regarding this environmental cost concept and state that it represents the totality of expenses borne by an economic entity - both voluntarily and as a result of the...
legal settlements into force - regarding the environmental protection, in order to protect/remedy the impact that the productive activity of the economic entity produces on the environment. The reaching of the environmental performance is one of the most important actions that must be taken for the success of a business.

Environmental costs and performance are subjected to the management attention for the following considerations, at least: some environmental costs may be reduced considerably or even eliminated by changes on the operational level, by investments in clean technologies, by the re-design of the manufacturing processes and products. Environmental costs (thus, the potential cost economies) may look insignificant, at first sight; by the use of the mechanisms for reducing wastes, in many economic entities the environmental costs and benefits have been brought to light; a better management of the environmental costs may lead to the improvement of the environmental performances and to significant benefits on people’s health as well as on the success of the business; the correct understanding of the localization of the environmental costs and benefits associated to the production processes and products leads to costs and prices established much more correctly and which may help the entity to design, in the future, more environmentally-friendly processes, products and services; concurrent advantages may result by the demonstration of an environmental orientation of the processes and services.

Environmental costs may be reduced or avoided by pollution prevention practices, such as: redesign of products, substitution of material inputs, improvement practices on maintenance operational level, for instance, if for the obtaining of a finished product the use of component A is necessary, but for the reducing of the impact, the respective component may be substituted by component B, then costs get diminished and thus, considerable cost economies may be obtained. The statistical analysis of the environmental costs is done as a support in the decisional process on a micro and macroeconomic level. The analysis issues regard the macroeconomic level, the consumption of natural - both renewable, and non-renewable - resources, in physical units or, where possible, in valuable units. The environmental cost content is related to the consumption of the factors that caused it and which - for being monitored and emphasized - must have a valuable and quantitative expression.

Therefore, the cost is the valuable expression of all the factors consumed for the production of environmental services and takes the shape of expenses borne by the environmental service provider. On the basis of the environmental cost there are existing and materialized labour consumptions, expressed as values – which consumptions take the shape of production and distribution expenses, borne by the providers of environmentally-specific services. A correct identification and an optimum distribution of the environmental costs per products, works, services or economic processes constitutes the essential factor in the diminution of the environmental impact and, implicitly, in the improvement of the environmental performance.

5. Factors that have determined the environmental accounting appearance

We consider that a number of factors, represented in figure 1, have contributed to the appearance of environmental accounting:

![Figure 1. Factors that have contributed to the appearance and development of environmental accounting](image-url)
All these factors lead to the necessity of integrating the environment in the decisional and financial process of the productive economic entity. A brief description of these factors is given in Table 4.

Environmental accounting has lately represented the subject of several scientific research works, some of which question the techniques used for the integration of the environmental information in the financial-accounting system. Environmental costs represent one of the many types of costs.

**Table 4.** Description of the factors that have contributed to the appearance of environmental accounting

<table>
<thead>
<tr>
<th>Favourable legislative framework</th>
<th>Pressure from the groups concerned</th>
<th>Evolution of costs – creation of the environment-specific accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The current legislative framework</strong> on the environmental protection has been initiated as a result of the international agreement, signed by most industrialized countries; <strong>Adoption of declarations, conventions and agreements has had an important role in the appearance and evolution of environmental accounting;</strong> <strong>Economy-specific instruments</strong> have influenced the appearance of a governmental strategy for environmental protection; <strong>The method of collection and analysis of environmental information</strong> helped environmental accounting emerge.</td>
<td><strong>Population, business partners, governmental authorities, insurance companies, creditors and stockholders, customers, competitors, investors</strong> – consider the environmental performance of an economic entity as an additional selection criterion for its funds’ placement, and <strong>environmental protection organizations</strong> – governmental or non-governmental organisms which have the role to control the entity’s environmental protection activity, the <strong>policy decision makers</strong> contribute to the legislation strengthening, creation of new orientations, adoption of new rules, able to sensitize most of the population, sensitive to ecological problems; <strong>suppliers</strong> - must be ISO 1400 certified, meant to guarantee the fact that the respective entity is concerned about the environmental condition improvement and, implicitly, about the population’s health condition. Economic entities must be aware of the ecological problem severity and take into consideration the environmental issues in the progress of the economic activities, must develop instruments which should control both the environmental performances and the impact of their products and services on the environment.</td>
<td>As a result of the first two factors, the cost-benefit analysis of objectives to be accomplished by the economic entities, has developed new directions, as follows: the environment is taken into account on all the levels of the economic activities, both regarding the employed human resource, and regarding the equipment, the technology and the procedures employed – they should be adapted to the settlements regarding the maintaining of a clean environment.</td>
</tr>
</tbody>
</table>

Taking into consideration the global necessity of sustainable development, environmental accounting may be regarded as an extension of the updated traditional accounting, which takes into account the interactions between economy and environment, by the relations: win-win, exchange-exchange, profit-compensation, damage incurred to the environment.

On a microeconomic level, financial accounting and cost accounting may be used as instruments for the statistic-economic analysis. The environmental financial accounting enables the economic entities to make up useful financial reports, in their relations with the investors, sellers or other partners.

Within this context, environmental accounting refers to the estimation and public reporting of environmental obligations and environmental material costs. Cost accounting is the process of identification, collection and analysis of the main financial information used by the management for the organizational planning, assessment and control. It is used as a support in making decisions. In Table no. 5, we shall present several types of internal managerial decisions that may be taken considering the environmental costs and benefits.

The information collected by the management accounting system is used within the management functions - **planning, assessment and control** - in several modes, respectively by the following: **control and motivation of the personnel’s behaviour for the improvement of the business results; substantiating decisions on: purchase, capital investment, establishing product costs and prices, risk management, process and product design, strategies; planning and directing managerial attention.** The impact on the
environment has an essential role in obtaining environmental performance, by a suitable identification and distribution of the environmental costs per products, works and/or services. Establishing a frontier between the environmental protection actions and production actions specific to the economic entity is rather difficult. At the moment, the environmental costs are estimated; economic entities may have to cope with different problems regarding their estimation.

Table 5. Types of managerial decisions founded on environmental cost information

<table>
<thead>
<tr>
<th>Managerial decisions on:</th>
<th>Information on costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design of products</td>
<td>Capital investments</td>
</tr>
<tr>
<td>Design of processes</td>
<td>Cost control</td>
</tr>
<tr>
<td>Establishment of utilities</td>
<td>Wastes management</td>
</tr>
<tr>
<td>Purchase</td>
<td>Allocation of costs</td>
</tr>
<tr>
<td>Operational management</td>
<td>Production and marketing mix</td>
</tr>
<tr>
<td>Risk management</td>
<td>Production prices</td>
</tr>
<tr>
<td>Environmental strategies</td>
<td>Performance assessment</td>
</tr>
</tbody>
</table>

6. Conclusions

With the environmental awareness, the necessity and importance of integrating the environment in the financial and decisional system of each economic entity was considered. Thus, by the two forms of accounting, respectively the financial and the managerial one, environmental accounting represents the key element for achieving these goals.

Environmental cost accounting represents a set of principles and approaches providing essential information for the activities specific to environmental management. Environmental accounting is more than a simple method of calculation representing the environmental costs - it is a system of planning and managing the environmental performance which should reflect the managerial style and commitment of the economic entity management to the environment. As we have presented above, an economic entity may have a different orientation regarding the environmental issues, but we anticipate that the evolution in time, management style and enterprisers’ behaviour may have a positive impact on the added value of the economic entity in relation to the environment. We must understand that the proactive, planned and quantified commitment may become profitable.

Environmental accounting represents a key element for the assessment, identification, analysis and recording of the impact produced by the economic activity on the environment and use of such information in the financial and decisional process of the economic entity. Within the present article, we have shown the relevance of the integration of the environmental issues in the financial and decisional system of the economic entity.

Thus, as a general conclusion, we consider that environmental accounting, by the environmental cost, is a fundamental instrument in providing pertinent information for making correct decisions in the economic entities, and in the publication and dissemination of this information in the annual reports and situations of economic entities. The managers of the capital, as well as other parties concerned, to which the economic entity has a certain social responsibility, use accounting to obtain information on the consequences of the economic growth on opportunities and environmental costs. In the current practice, only a little part of the externalities has been internalized, either voluntarily, or by the coercion of some direct or indirect rules. Without such information related to the structure of the impact of the economic activities, the decisional system of the economic entity may not support coherent actions regarding the activity and the capital management. An even more important error may be the inexact internalizing of some elements that should not affect directly the economic performance indicators.

While the traditional accounting is an informative system, created for measuring the past economic performance and for founding and documenting the current economic performance, the costs incurred by the environmental impact may be influenced by the economic entity efforts in the sense of environmental protection. The most usual costs incurred by the environmental impact refer to the following: high costs for the raw materials whose use affects, to a great extent, the importance of the
environment, regulatory costs (fines, penalties), increase of the quantity of generated wastes etc. The obligations incurred by the environmental impact refer to future costs, like the ones caused by the recondition of some sites affected by the current activity or by the damage caused by current litigations regarding the environmental impact.

Another group of obligations incurred is of a fiscal nature. They group, for example, the expenses for the carbon dioxide emissions (emission taxes), while, for the use of ecological technologies, fiscal incomes appear. The information on the environmental costs is determined in the whole managerial process for substantiating viable decisions regarding the production cost modeling, for the determination of real costs and obtaining performance, taking this cost into account, which issue is based on the environmental factors. Thus, the factors influencing most the adoption of environmental accounting on a large scale are represented by the price of the input materials of the production process, by settlements and their application, as well as by the establishment of the economic environment. Therefore, we consider that the environmental accounting system may be implemented in any economic entity, but the benefits that could be obtained may vary considerably, depending on their specific conditions and on the supremacy of the factors determining its implementation. Finally, all the economic entities that cope with environmental problems will have to answer by taking into account such challenges and constraints.

References:
1. Cenușcă L. (2008), *Contabilitatea verde – un pas important spre o reală protecție a mediului* (Green accounting – an important step forward towards a real environmental protection), Revista Contabilitatea, expertiza și auditul afacerilor, Ed. CECCAR, nr.2, p.16;
2. Tabără N., Nuță M. (2007), *Contabilitatea de mediu în perspectivă internațională* (Environmental accounting from an international perspective), Revista Contabilitatea, expertiza și auditul afacerilor, nr.7, pp.16-22;
4. Şendroiu Cleopatra, Roman Aureliana, Chiţu Alberta (2006), *Contabilitatea managerială a mediului: analiza costurilor de mediu și procesul decizional al organizării* (Environmental Management Accounting: environmental cost analysis and decisional organizational process), Revista Economica Teoretică și Aplicată, nr.10, p.948;