

ENVIRONMENTAL ACCOUNTING AS A BUSINESS MANAGEMENT TOOL: A REVIEW

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ABSTRACT

This paper reviewed environmental accounting as a business management tool. Successful business strategies depend on the quality and comprehensiveness of information available to decision-makers. Comprehensive management information, including information on environmental costs and opportunities, can yield competitive advantage. Environmental accounting represents a method of measuring the performance of any type of organization (governmental departments, industrial producers, etc.) in relation to the environment and in economic terms. To successfully implement a corporate environmental strategy, decision-makers require precise information about the environmental costs of the company's products, processes and activities and it requires the combined skills of multiple disciplines, including environmental managers, economists, engineers, operations managers, planners, scientists, lawyers and management accountants. As a business management tool, environmental accounting uses costing analysis, investment analysis and performance evaluation to improve corporate environmental management practices in order to minimize corporate environmental negative impacts and improve corporate financial performance.

INTRODUCTION

Growing social costs and increasing criticism of prevailing accounting practices both on the macroeconomic and microeconomic level have recently led to efforts to expand the scope of accounting for better evaluation of an organization's behavior. Environmental accounting provides corporate management as well as governmental authorities with a comprehensive assessment system of the annual environmental effects of a corporation's regular business activities. As a tool to control an economy's impact on the physical environment, it helps to achieve a better quality of life.

Environmental accounting, has, continued to grow along the lines of financial accounting and dealt with the institutionalizing environmental concerns (Christmann, 2000; Fussel & Georg, 2000), disclosure practices (Llena, Moneva, & Hernandez, 2007; Robkob & Ussahawanitchakit, 2009; Singh & Joshi, 2009), financial performance (Gadenne, Kennedy, & McKeiver, 2009; Moneva & Ortas, 2010;), assurance procedures (Dixon, Mousa, & Woodhead, 2004; Özbirecikli, 2007), etc. although in the past periods, companies used to take environmental issues into consideration in order to monetize them, but recently, they now consider it as a strategic management tool for survival in a competitive environment (Hoekstraa, Jeroen & Bergh 2006). Successful business strategies depend on the quality and comprehensiveness of information available to decision-makers. Comprehensive management information, including information on environmental costs and opportunities, can yield competitive advantage.

Measuring environmental performance and setting targets is a critical component for organizations to become more productive, more profitable, and more sustainable. Monitoring key metrics such as energy, waste, and water usage leads to reductions in greenhouse gas emissions as well as operational efficiency improvements and cost savings. When armed with factual data, organizations can benchmark and affect behavioral change to materially reduce environmental impacts.

The environmental accounting represents a method of measuring the performance of any type of organization (governmental departments, industrial producers, etc.) in relation to the environment and in economic terms. At the level of an organization, the environmental accounting is used in order to identify measures that promote the sustainable environmental management i.e

measures that will ensure a balance between the decrease of the costs and the decrease of the impact on the environment.

By integrating environmental considerations into their products and processes now, companies are strategically positioning themselves for the next century, when aggressive environmental management will be an imperative for business survival. These organizations focus not only on complying with government regulations but on reducing their corporate environmental impacts. Sophisticated companies are applying various methods and techniques that encourage a comprehensive evaluation of "upstream" and "downstream" effects of their activities or products.

Literature Review

Environmental accounting is used to identify the benefits of enterprises gained as a result of the use of the assets already present in nature and the costs occurred as a result of this usage (Bengü and Can, 2009). Environmental accounting, which is also defined as "green accounting" in the literature (Alagöz and Yılmaz, 2001; Soylu and İleri, 2009.; Memiş, 2009.; Aymaz, 2009.; Taşdemir, 2011.; Akcanlı, 2010.), is defined as recording the impacts that arises as a result of the manner of use of environmental resources either positively or negatively (Melek, 2001.; Raouf and Hamid, 2002.; Esmeray and Tanç, 2009).

Environmental accounting is a general term referring to combination of information and environmental costs in various accounting practices used for the attempt of studying mutual relations between accountants and ecology, awareness of the environmental cost information or settled environmental costs, distribution to the appropriate products and processes (EPA, 1995.; Çelik, 2007.), activities in the environmental field, environmental policies and strategies of the organizations (Shapiro et al., 2000).

Environmental accounting, which ensures improvement of financial and non-financial accounting systems (Gray et al., 1993.; Çetin et al., 2004.), measurement of negative effects of the environment (Çetin et al., 2004.; Güvemli and Gökdeniz, 1996.; Alagöz and Yılmaz, 2001.; Aymaz, 2009.; Çalış, 2013.), recognition, monitoring and reporting of events in the financial nature related to the environment (Altuğ, 2008.; Pearce et al., 1993.; Aslan, 1995.; Alagöz and Yılmaz, 2001.; Çalış, 2013.; Haftacı and Soylu, 2008.), is also used to identify the effects of environmental issues on conventional accounting disciplines (Yakhou and Dorweiler, 2002).

Environmental accounting as defined by Yakhou and Dorweiler (2002) as cited by Ironkwe and Success (2017) is an inclusive field of accounting that provides reports for both internal uses, generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting and disclosing environmental information of interest to the public and to the financial community. It is also seen as the identification, measurement and allocation of environmental costs, the integration of these environmental costs into business decisions, and the subsequent communication of the information to a company's stakeholders (IMA, 1998).

As stated by IMA (1998), organizations use environmental accounting for the following purposes namely;

- To help managers make decisions that will reduce or eliminate their environmental costs;
- to better track environmental costs that may have been previously obscured in overhead accounts or otherwise overlooked;
- to better understand the environmental costs and performance of processes and products for more accurate costing and pricing of products;
- to broaden and improve the investment analysis and appraisal process to include potential environmental impacts; and
- to support the development and operation of an overall environmental management system.

In a study of 22 large multi-national corporations in Nigeria, Disu and Gray (1998) noted that less than a quarter of companies made disclosures in the environmental, equal opportunities

and consumer areas. Ironkwe and Success (2017) in their study concluded that Environmental accounting is imperative for sustainable development and therefore suggests that all companies operating in Niger Delta area should imbibe environmental accounting as part of their operational standard. Yakhou and Dorweiler (2002) also assert that environmental accounting is an inclusive field of accounting. That it provides reports for both internal uses, generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting, and external use, disclosing environmental information of interest to the public and to the financial community.

Environmental accounting as a business management tool

The development and the permanent improvement of the environmental accounting system represents an essential condition of the organization's sustainability, so that it becomes, on one hand, an instrument that supports the decision-making process, and on the other hand, an indicator for the sustainable environmental management that accurately evaluates the activities of environmental protection. To successfully implement a corporate environmental strategy, decision-makers require precise information about the environmental costs of the company's products, processes and activities and it requires the combined skills of multiple disciplines, including environmental managers, economists, engineers, operations managers, planners, scientists, lawyers and management accountants.

The management accountant has an important role to play on the corporate environmental team. The management accountant may help develop and implement better environmental analysis tools and techniques in several ways, such as:

- helping assess the need for new or modified management information and financial systems;
- developing or seeking capital investment and appraisal tools that more effectively incorporate environmental costs and benefits;
- isolating and computing individual environmental costs;
- helping resolve conflicts between environmental management and traditional financial management systems, such as those that occur in capital investment appraisal;
- considering the financial costs and risks associated with an investment or product/process design choice that will likely cause or increase pollution;
- helping improve methods for reallocating internal environmental costs to specific products and activities;
- training line personnel in environmental accounting reports and concepts, and in performing new procedures (e.g., coding) to implement environmental accounting processes and systems;
- working with other professionals in the organization to assess the potential costs of failing to undertake environmental initiatives; and
- offering expertise in the financial evaluation of environmental litigation and settlement options.

Companies use a variety of tools and techniques in order to integrate environmental impacts into management decisions. These include; costing analysis, investment analysis and performance evaluation.

Costing Analysis: Effective corporate environmental management is impossible without an adequate system to identify and measure environmental costs. Some of the tools and techniques that can help companies define the activities, processes and products that contributes to environmental costs are:

- allocation of environmental costs;
- life-cycle assessment;

- hierarchical cost analysis;
- activity-based costing; and
- quantification and monetization of externalities and full environmental cost accounting.

Investment Analysis and Appraisal: In many organizations, traditional investment analysis and appraisal approaches overlook pollution prevention projects. Pollution prevention projects usually fare poorly because a systemic bias in traditional investment analysis places them at a competitive disadvantage. For example, managers accustomed to using traditional accounting methods are unable to pinpoint other quantified (internal) environmental costs.

Another bias is the mere fact that many environmental costs are uncertain: managers do not know what they are, their ultimate magnitude, and when they will occur. This uncertainty reflects the inherent complexity of use, movement and exposure to hazardous substances. Rapidly changing regulations and judicial decisions also cause uncertainty.

Performance Evaluation: In this Stage, companies are committed to fully integrating environmental considerations into corporate life and recognize the importance of integrating environmental measurements into their performance evaluation systems. This ensures that statements of environmental responsibility articulated by the CEO and in corporate mission statements are properly implemented.

If environmental performance is truly important, evaluations and rewards should highlight that component. If a company sincerely wants to establish and maintain environmental leadership, then the environmental performance of individuals, facilities and divisions must become an integral part of the performance evaluation. In the long run, environmental performance and financial performance are inter-related. Companies cannot continue to strive for environmental excellence while evaluating and rewarding performance based strictly on short-term financial indicators.

CONCLUSION

In conclusion, it is no longer a news of the eminent need for a greener environment. Companies all over the world are beginning to tap into this idea. They now tend to running a leaner, more energy-efficient and cost-effective operation, and identifying short- and long-term business advantages. Therefore, companies now appreciate for environmental accounting that will help to develop and implement a corporate environmental strategy that integrates environmental impacts into all relevant management decisions for the wellbeing of the company. As a business management tool, environmental accounting uses costing analysis, investment analysis and performance evaluation to improve corporate environmental management practices in order to minimize corporate environmental negative impacts and improve corporate financial performance.

RECOMMENDATION

- 1.** The organization should develop an Environmental Performance Index (EPI) and establish targets that focuses on consistent, measurable improvements from a base-line of environmental performance. Such benchmarks to measure environmental performance will encourage management and staff to improve compliance with environmental regulation thereby reducing costly non-compliance issues and corrective actions.
- 2.** Companies should adopt long-term accounting goals for producing environmental accounts that reflect the full cost of production, even when monetary values cannot be assigned.
- 3.** Companies should formulate a robust and all-encompassing environmental accounting policies and practices that focus on sustainability, engender environment friendliness and fair, equitable to all the stakeholders

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