INTERNATIONAL JOURNAL OF ENGINEERING AND MANAGEMENT SCIENCES

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THE FRAMEWORKS OF ENVIRONMENTAL ACCOUNTING

[1,2]Minaxi A. Rachchh, [3,4]Gadade Siddheshwar
[1]Jhunjhunwala College of Arts, Science and Commerce, Vashi, Navi Mumbai. Maharashtra , India
[2]Practicing Chartered Accountant.
[3]Chairperson BOS of Accountancy, Faculty of Commerce, University of Mumbai, India.
[4]Principal -Changu Kana Thakur Arts, Commerce and Science College, New Panvel (W) – Raigad, Maharashtra-India.

ABSTRACT
Various perception of the concept of environmental accounting has been developed with the emergence of environmental accounting. Several approaches and tools have been proposed within the field of environmental accounting mainly due to the related information need of the variety of stakeholders. The paper has explained six different frameworks in detail. The detailed analysis provides the insight to the topic. Up until the present, no commonly accepted framework for environmental accounting has been established that integrates the different approaches and tools.

KEYWORDS: Environmental accounting, concepts, information need, stakeholders.

INTRODUCTION

The conventional accounting mainly includes financial accounting, management accounting and other accounting. It includes accounting in monetary terms. The conventional accounting in physical units includes approaches such as production planning systems, inventory accounting systems and quality systems and many more. The conventional accounting provides information pertaining to economic performance mainly to target parties whereas environmental accounting distinctly takes into account environmental impacts related to the company activity (Bennett et al., 2002).

The literature on environmental accounting at corporate level covers several different approaches. The term 'environmental accounting' is itself used loosely and ambiguously (Bartolomeo et al., 2000).

Various perception of the concept of environmental accounting has been developed with the emergence of environmental accounting (Gray et al. 1993; Schaltegger and Stinson 1994; EPA 1995; Gray et al. 1996; Schaltegger et al. 1996; Parker 1999; Schaltegger and Burritt 2000).

The different approaches to environmental accounting are in terms of their emphases on content and primary purpose. The content indicates the balance between financial and nonfinancial data. The primary purpose indicates the principal objective covering all the stakeholders' needs. The difference in treatment of environmental accounting is due to differences in economic policies, legislative structure, organisation structure, cultural differences, basic ethos and philosophy. The various frameworks are the outcome of these differences. Various perceptions of the concept of environmental accounting have been developed by various researchers. The early framework of environmental accounting introduced by Schaltegger (1996) underlined very distinctly the separation of environmental related economic aspects of business activity from company related impacts on the environment. Accounting system reflecting the environmental related economic aspects of business activity was termed as "environmentally differentiated conventional accounting systems**"** expressed in monetary units**.** Accounting systems which reflect which refer to the physical impacts of a company on the environment were considered as "ecological accounting". Together these two parts formed corporate environmental accounting. Both "environmentally differentiated conventional accounting systems' and "ecological accounting" further was distinguished according to different stakeholders' information requirements.

Schaltegger & Burritt (2000) further developed an environmental accounting system based on the framework of Schaltegger (1996). It includes environmentally induced financial impacts from environmentally differentiated conventional accounting system. Environmentally induced financial impacts are further divided as environmental issues in management accounting, environmental issues in financial accounting and environmental issues in other accounting systems.

It includes two types of information physical environmental information and monetary environmental information. This is important, as different stakeholders require both kinds of information. It also emphasises the methodological origin of environmental accounting systems dealing with environmental related monetary impacts from conventional accounting. The framework considers conventional and other accounting methods. It distinguishes environmental issues of conventional accounting into financial and management accounting. Burrit et al. (2002) augmented above framework on the arguments that the early framework is incomplete as environmental accounting is considered as integrated the part of the conventional accounting. They considered three features of accounting, measurement, aspects, and types of stakeholders. Measurement indicates monetary and physical units. Accounting aspects may be non-environmental or environmental. The accounting data may be for the use of internal stakeholders or external stakeholders of the company.

He argued that as the conventional management accounting deals with monetary information and other accounting system like inventory systems deals in physical units only, the early frameworks of Schaltegger (1996) and Schaltegger & Burritt (2000) did not take into account physical and monetary information independently which is the main requirement of the environmental accounting. He further argued that early framework is the unrelated and independent terminology of the two parts – “ecological accounting” and “environmentally differentiated conventional accounting” that make up environmental accounting. Hence, they introduced an integrative framework of environmental accounting. As per their view, different types of information related to corporate environmental aspects, environmental accounting is considered to consist of monetary environmental accounting and physical environmental accounting. They considered that differentiation of the concept of environmental accounting as well as delineation from conventional accounting is indispensable and that environmental accounting takes into account environmental impacts related to business activity expressed in monetary and physical units. They stated that within the conventional approach, environmental accounting consists of monetary environmental accounting and physical environmental accounting. Monetary environmental accounting system measures environmentally induced economic impacts of the company in monetary terms. It covers: Monetary Environmental Management Accounting, External Monetary Environmental Accounting and Other Monetary Environmental Accounting such as Environmental Tax Accounting. The physical environmental accounting system shows the impact of company related activities on the environment. The impact of companies' activities is measured in physical terms. It includes Physical Environmental Management Accounting, External Physical Environmental Management Accounting and Other Physical Environmental Accounting such as regulatory environmental accounting. They categorised these accounting systems within the framework of environmental accounting according to two elements Monetary v/s Physical and Internal v/s External. They have developed three systems of environmental accounting: Environmental Management Accounting, External Environmental Accounting and Other Environmental Accounting.

Burritt (2002) further added to the framework of Burrit et al. (2002) that there many considerations that need to be taken into account when implementing the framework for environmental accounting and reporting. He stated that qualitative information is also important but critical. He further argued that the distinction between external and internal stakeholders is difficult to make and therefore the emphasis is upon external environmental accounting and reporting.

Bartolomeo et al. (1999) explained the new framework of environmental accounting. They developed four approaches to the environmental accounting at the corporate level - environmental management accounting, energy and materials accounting, financial reporting and social accountability reporting. This framework supports internal information need of a company. They considered both the financial and nonfinancial information of accounting. But, physical environmental information is not dealt separately by them such being considered in above frameworks.

The environmental accounting covered under Japanese Environmental Accounting Guidelines 2005, (Ministry of the Environment, Japan, 2005) is composed of the following factors: environmental conservation cost (monetary value), environmental conservation benefit (physical units), and the economic benefit of environmental conservation activities (monetary value). The data for each of these components is represented in figures or descriptive information. It is a structure for systematically identifying, measuring, and communicating environmental conservation cost and the economic benefit of environmental conservation measures in monetary value. It indicates the financial performance portion of environmental accounting that is an environmental conservation benefit, in physical units. It also identifies, measures, and communicates the environmental conservation benefit presented in physical units. The results of environmental accounting can be furthermore used for analysis and evaluation. As per guideline, environmental accounting provides quantitative and qualitative information. Qualitative data include; environmental cost conservation in monetary terms, environmental conservation benefit in physical units and economic benefit associated with environmental conservation activities in monetary value. Qualitative information includes; details of the cost of environmental conservation, details of the benefits of environmental conservation, and details of the economic benefits associated with environmental conservation activities.

CONCLUSION

The framework of environmental accounting is adopted in accounting literature differently. The similarity indicates inclusion of all types of environmental information in monetary and physical terms to stakeholders of the organisation. The frameworks are based on conventional accounting and the information needs of the different stakeholders. Practical implementation of environmental accounting in a conventional system is complex as the measurement of data and the determination of needs of the stakeholders are difficult.

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