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ENVIRONMENTAL ACCOUNTING: METHODOLOGY AND APPLICATION

Dr. K. KARUPPASAMY

Assistant Professor of Commerce,

ST. Thomas College of Arts and Science, Koyambedu, Chennai, 600107.

&

Mr. M. KANNAN

Assistant Professor of Commerce

ST. Thomas College of Arts and Science, Koyambedu, Chennai, 600107.

Abstract

The study of environmental accounting aims to quantify, assess, and disseminate the expenses associated with an organization's or the country's economic impact on the environment. Expenses include waste management fees, environmental fines, penalties, and taxes, the cost of purchasing pollution control systems, and the expense of cleaning up or remediating contaminated sites. The inconsistent interpretation Innovative solutions alleviate the burden of environmental narrative accounting standards. Using volunteer data, corporate governance systems—mainly audit committees—have investigated the relationship between environmental narratives and financial reporting. To be financially successful in the long run, firms need to use environmental accounting. Additionally protect the environment for coming generations.

Keywords: *Environmental Accounting, Ecological accounting, Gross Domestic Product.*

Introduction

The goal of environmental accounting, which is a subset of accounting proper, is to include data on the economy and the environment. Through the System of Integrated Environmental and Economic Accounting, a satellite system to the National Accounts of Countries, it can be carried out at the

corporate or national economic levels (among other things, the National Accounts produce the estimates of gross domestic product, otherwise known as GDP).

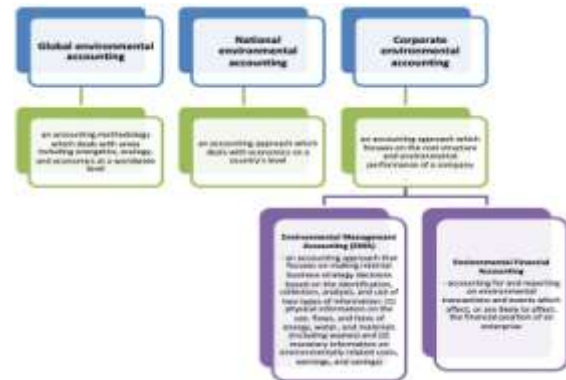
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impact on the environment. Expenses include waste management fees, environmental fines, penalties, and taxes, the cost of purchasing pollution control systems, and the expense of cleaning up or remediating contaminated sites.

Ecological accounting and ecologically differentiated conventional accounting make up an environmental accounting system. Environmentally differentiated accounting calculates the financial impact of the environment on a business. Ecological accounting quantifies a company's impact on the environment using tangible metrics.

Since the 1970s, when the idea of sustainable human society development first emerged, environmental accounting (EA) has grown to be a unique area of accounting study. Since the early 1970s, environmental accounting (EA) has been used as a tool to reflect and oversee economic activity related to the environment. This is represented through study on the conversion of social costs in regulating pollution and also a paper on accounting problems of pollution which has started the prelude to the EA research (Zhu Xueyi, 1999). Concern over environmental issues increased during the 1992 United Nations Environment and Development Conference and after the UN World Environment and Development Committee's 1987 report, "Our Common Future." Since then, the researchers have conducted a wide range of studies and talks about EA. An important development in EA is the 1990 study "Green Accounting: The Accounting Profession after Pearce" by Rob Grey. It showed that EA research has emerged as the primary

topic of discussion in the international academic circles. EA's hallmark is "accounting about increase or decrease on artificial assets and natural assets, most importantly accounting of conversion between the two assets" (Grey, 1990). In other words, it focuses on identifying and analysing the changes that occur between artificial and natural assets.



The importance of applying and disseminating EA knowledge has caused scholars worldwide to give recent studies on the subject considerable attention. According to the findings of those researches, environmental performance can raise stakeholder satisfaction, enhance brand equity, increase firm value, and lower capital costs. There was extremely minimal chance of bankruptcy for the companies with a stronger prior record of excellent environmental performance (Lin & Dong, 2018). According to studies conducted by Cai et al. (2016) and Fuadah et al. (2019), companies that exhibit superior environmental performance are associated with lower risk and greater organisational value. According to Oikonomou et al. (2014), environmental performance can be viewed as a means in venture processes that have significant relationships with various stakeholders.

Yeh et al. (2019) claim that because Chinese companies are more environmentally conscious, their cost of borrowed financing is lower. When investing in improving environmental responsibility performance, it will significantly lower the equity financing costs for organisations (Xu et al., 2015). Capital limitations are less severe for the companies that perform the best in terms of environmental stewardship (Salvi et al., 2018).

Objectives of the Study

Environmental accounting assists businesses in making decisions that take the environment into account. These are a few of environmental accounting's goals.

- 1) To investigate and explore various Environmental Accounting aspects impacting on Profitability of Companies.
- 2) To examine the connection between environmental accounting, return on assets, and return on capital employed.

Methodology

The study is based on secondary data collected from various Articles, Journals and Websites.

Statement of the Problem

The issues with EA and EMA include inadequate definitions of environmental costs, managers' reluctance to embrace EMA, a lack of coordination between functional areas, a lack of a legal framework, inadequate recommendations and the pressure to implement them, etc. It is acknowledged that many environmental costs are incurred in overhead accounts, such as energy and water costs, waste treatment costs, stationery costs, insurance from holding hazardous substances, or regulatory costs associated with specific

emissions or releases, because "the majority of management and cost accounting systems that are in place within organisation pay little or no attention to attributing any form of environmental cost to an organization's operations." Overhead accounts are what the environmental cost is classified as.

Literature Review

The question of whether natural resources have a beneficial impact on sustainable development was investigated by Herath (2005). Because GDP offers more than just immediate indicators of a nation's health, resource accounting is important. It lists the possibilities, constraints, and state of affairs for the fields of accounting and design. The inability of GDP to take environmental effect into account is a major flaw in the measure of growth. However, improvement is made more difficult by the measurement of environmental impact, and using natural resources is one way to improve the notion. The challenge facing the accounting and economics professions is to have precise evaluation techniques, to take diverse groups' needs into account, and to think critically about the world. The new ideas presented in this paper which blend various concepts and creative skills to chart an innovative course for EA.

Letmathe and Doost's (2000) analysis comes to the conclusion that an environmental cost accounting system based on a cause-and-effect relationship is required. It is crucial for more accurate cost recognition and billing of environmental charges. They also came to the conclusion that the business may be helped in reaching its objectives by the

advancements brought about by the development of an effective environmental cost accounting system.

GDP is a development indicator that does not account for harm to natural resources. Thus, it is the GDP's primary flaw (Gamini, 2005). Gamini (2005) asserts that quantifying environmental harm is challenging. Thus, it becomes challenging to design the concept to incorporate environmental resources. Using the model developed by Grey et al., Larrinaga et al. (2001) investigated the relationship between EA and organisational transformation in a Spanish context. Thus, nine businesses representing a range of sectors and perspectives on EA in Spain were used by the researchers. A prior postal questionnaire was answered by six out of nine companies. However, three more businesses were included to give a comprehensive picture of different industries. Larrinaga et al. (2001) demonstrated that Spanish organisations were not changing their traditional view of the environment as well as the utilisation of EA is doubled with an effort to discuss and monitor the environmental agenda.

The extent to which local Portuguese entities were implementing EA methods was examined by Ribeiro and Guzman (2010). A questionnaire was used to gather data, and it was delivered to municipal businesses as well as large and medium-sized city governments. The results showed that local bodies in Portugal have not developed their EA practices to a high degree. Furthermore, the current mandatory EA criteria do not have a favourable correlation with the adoption of EA practices by Portuguese

domestic firms. In order to understand accountants' perspectives on corporate social responsibility, environmental auditing, and reporting methods in developing nations like Bangladesh, Islam and Dellaportas (2011) conducted a study. Members of the Institute of Chartered Accountants of Bangladesh (IACB) were surveyed to establish perspectives on difficulties connected to social and EA and reporting practices in Bangladesh. The results showed that although there has been little improvement, accountants have positive attitudes regarding social and EA.

According to Alewine and Stone's (2013) study, "How does EA information influence attention and investment?" strategic decisions and environmental issues are now intimately related due to their repercussions. The biodiversity balanced scorecard, a sustainability scorecard, incorporates environmental data as a result of the results. Nonetheless, they contended that the introduction of data on the atmosphere caused a shift in the attention-allocation process, which in turn led to modifications in the use of environmental data; hence, the kind of EA data is also important. This study is among the first to show how attention and spending differ according to the availability and quality of environmental evidence.

The goal of Al-Shaer et al. (2017)'s study was to look at the variables influencing the quantity of environmental disclosures. If the amount of a firm's stockholders has expanded, the number of filings is not changed. This provides additional evidence that the conclusions may hold true in other nations. The inconsistent

interpretation Innovative solutions alleviate the burden of environmental narrative accounting standards. Using volunteer data, corporate governance systems—mainly audit committees—have investigated the relationship between environmental narratives and financial reporting.

According to Rounaghi (2019), environmental management is a crucial factor in assessing a business's performance, and it is important for chemical engineers, plant managers, employees, and purchasing agents to collaborate as a team. The majority of companies are figuring out how to address and report on the climate. Today's human globe faces one of the most critical environmental concerns. For this aim, EA is important. The conclusion demonstrated that, in addition to answering the question of how the economy did at a particular point in time, GDP may also be helpful in economic policymaking and/or as a gauge of progress. Green accounting aims to incorporate environmental costs into the financial activities. Regardless of size, environmental accounting is critical to all industry sectors. Big or small, depending on the situation, EA may be used. It is essential to collect data from all organizational subunits. People who belong to different interest groups need to speak to each other to reach a shared environmental goal. Clearly, accountants will have a perfect foundation for economic and financial regulations. In order to accomplish this purpose, EA goals and activities should be specified thoroughly, the guidelines and regulations

should be defined based on practical concepts.

Marrone, et al. (2020) used a machine learning approach for literature reviews in their research to show topics and concepts as they appear. It has been observed that in the past several years, publications on stakeholder theory and corporate social responsibility (CSR) have become more common in accounting journals. These sources of information may not be trustworthy (e.g., accounting for ecosystem services). It provides a means of identifying topics that are "trending" in accounting and non-accounting publications. The writers analyse EA in a way that is highly required.

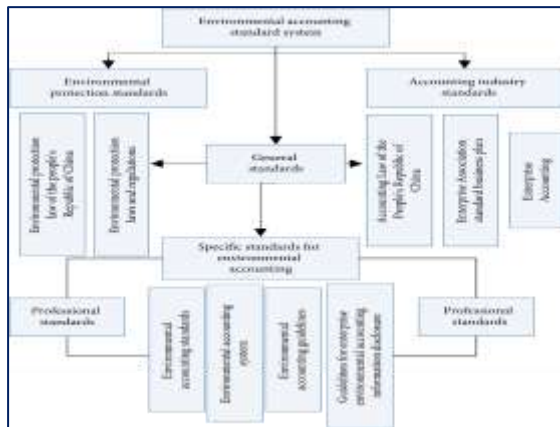
From an alternative vantage point, Senn and Giordano-Spring (2020) conducted research to learn more about the field of corporate EA disclosure, which has not been extensively examined before. The normativity-based system is exploited by the analysis. Annual reports are the main subject of their investigation. Moreover, interpretative interpretations of the figures are provided by semi-structured interviews conducted with twenty senior workers of the same companies. According to their findings, EA is still in its early stages. Different interpretations of the evidence can be employed in the financial reporting of some organisations due to the low level of regulatory clarity. They have come to the conclusion that environmental spending and responsibility will exist separately, and regulators will find this analysis to be extremely helpful in the event that environmental regulations are modified.. The study contributes to the

body of research on the matter. To better understand how various actors and networks approach regulatory policies that contributes to EA norms.

Environmental Accounting Framework

Under the direction of the Securities and Futures Commission, the Ministry of Finance, and other pertinent agencies, environmental accounting rules ought to be developed. The organisation of

Figure 1
Construction ideas of environmental accounting standard system

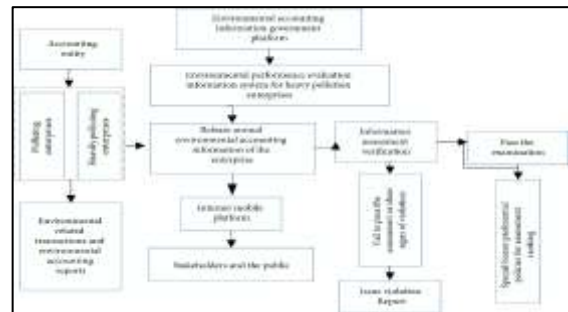


Source: <https://www.hindawi.com>.

The governmental platform of environmental accounting (Figure 2) is developed, and the information system of environmental performance evaluation of heavy polluting industries is established. Businesses' environmental performance is made available to the public and regularly ranked in order to accept oversight from a variety of stakeholders. In order to enhance the cost of infractions and the pressure from the public, we will produce violation reports for all infractions, accept monitoring from supervisory and law enforcement authorities, establish large fines, and expose their violations through official channels.

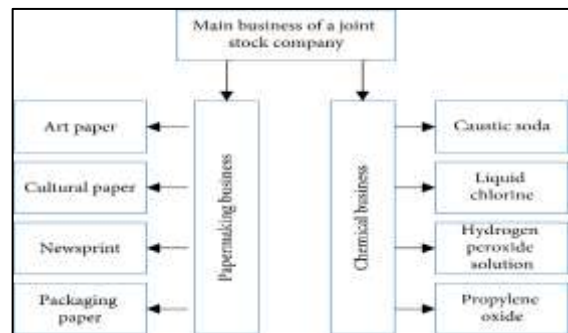
experts and scholars, the consideration of other nations' successful experiences, the blending of universal and unique experiences, adherence to the development, foresight, and operability principles, the establishment of an environmental accounting standards system (Figure 1), and the addition of an environmental accounting guide are all necessary.

Figure 2
Government platform for environmental accounting information



"A" was successfully listed on the "XX" stock exchange in September 2001 after being incorporated in 1994. This big paper mill in "XX" province has been producing chemicals successfully for the past few years. The specifics are displayed in Figure 3.

Figure 3
Production business relationship of a joint stock company



Establishing realistic standards for environmental accounting implementation

in businesses is one of the specific goals of environmental accounting implementation, with the overarching objective being to define the future development path of environmental accounting implementation in China. Enhancing the oversight of businesses' environmental protection and advancing the realisation of sustainable development—which necessitates coordinating social, environmental, and economic benefits—are the two main objectives of environmental accounting implementation. An organization's disregard for environmental concerns will have a negative effect on its ability to pursue its economic goals as well as the growth of the social community, both of which depend on these benefits. Figure 4 illustrates how monetary and nonmonetary data must represent these three benefits.

Figure 4

Relationship between environmental accounting information disclosures



Conclusion

Organisations must use environmental accounting in order to be sustainable and socially responsible. By taking environmental issues into account in their financial reports and choices, it helps businesses comprehend how their actions influence the environment and how much it costs. They become more accountable and honest. They can also

develop ways to cut waste and conserve resources thanks to this. To be financially successful in the long run, firms need to use environmental accounting. additionally protect the environment for coming generations.

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