

How Green is my Accounting: A case for Environmental Accounting!

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Abstract

Green accounting or Environmental accounting is an important management initiative and can be construed as an extension of organisation's (good) corporate citizenship value that attempts to maintain equilibrium by comparing the organisational benefits with the environmental costs. It is one of the most critical recent accounting innovation which seeks to integrate environmental philosophy with the organisation's book keeping, accounting and record. Adopting environmental accounting practices result in significant cost savings for a contemporary business organisation and optimizes its effectiveness while providing impetus for growth. Hence it strikes a balance between organisation's attainment of its business goals and the improvement in environmental sustainability. No wonder, Green accounting has come to be widely recognized as an important tool for continuous improvement in an organisation's quest for excellence. It is an environmental philosophy which brings about sea change in how the present day organisations perceive and implement their accounting policies and establishes the accounting practices. A large number of firms today are re-engineering their accounting processes to minimize (if possible, to eliminate) the adverse impact of business on its environment. There is a pressing need for the organisations to evolve and pro actively embrace the Green accounting practices.

The vast field of Green accounting offers ample opportunities to the researchers as it unfolds and expands at a rapid rate. The current paper while contributing to the existing literature on Green Accounting and Environmental accounting, explores the advantages that a business unit may enjoy over its competitors by adopting and implementing such accounting measures. In addition, the paper seeks to identify the limitations by examining the effect of implementation of environmental accounting system on organisations and provides directions for future research.

Keywords: *Green accounting, Environmental Accounting, Environmental Cost, Accounting innovation*

INTRODUCTION

Green accounting which developed in 1980s attempts to incorporate environmental costs into the financial statements of a business firm. The rationale is simple; operations of an enterprise in pursuit of its business objectives leave a negative imprint on its environment in the form of increased pollution levels,

increased rate of resource depletion, enhanced deforestation and multiple other forms of alarming environmental depletion. Rapid technological advancements coupled with the pressure of competing in the global market has resulted in reckless exploitation of natural resources and aggravated the rate of environmental degradation. From Chernobyl to Bhopal gas disaster to China's (Delhi, recently) alarming smog levels, all are testimonies of the indiscriminate trade and mercantile practices being followed today. Environmental accounting was hence born out of the need for organisations to be sensitive to the cause of environment and employ effective measures to preserve it by estimating the environmental cost of business.

While developed nations vie with each other "in race to the top" often disregarding the environment, third world countries struggle to strike the "right balance" between sustained development and environment protection. Environmental well being should be considered equally, if not more, important than the economic well being of a nation. Environmental performance of an organisation must take precedence over its financial performance. Unfortunately, for most of the contemporary business organisations, the trade off between the two is not easy to make.

Green accounting is an effective environmental management information system that goes beyond the traditional accounting systems to include the costs related to material, manufacturing, operations and management of the business firm seen on a broad environmental canvass. Techniques of forecasting, stochastic modelling, present value estimation etc are used to understand the total environmental cost likely to arise in future directly attributable to firm's operations.

Environmental accounting was one of the key discussion areas way back in 1972 during the Stockholm Conference where the necessity of creating suitable accounting and reporting mechanism was felt. As the nations (and the organization) draw resources from environment for achieving their social (and business) goals, the benefits to the society (and the various stake holders) often far outweigh the environmental costs. Businesses must employ sound Environmental valuation methods, much the same way they employ various techniques in valuation of their tangible and intangible assets.

Environmental costs should be clearly demarcated between- those impacting the environment instantaneously and costs which have a propensity to make their presence felt only in the long run. Adequate internal control systems should be designed and put in place to reduce the environmental costs of doing business. Proper accounting measures should be used to quantify the environmental costs associated with activities such as; Emission of green house gases, effluent discharge, soil, air, water contamination. Adoption of clean (green) technology, reducing carbon foot prints and management of environment life cycle must be the key thrust area. Corporate environment image should be the buzz word and replace the brand image.

The reckless environmental deterioration, exponential increase in pollutants and alarmingly falling resource levels, has all given an impetus to environmental accounting techniques. Organisations have gradually come to realize that nature's bounty is not unlimited, resources are not infinite in nature and it is only by adopting the eco-friendly measures that they can sustain themselves in the long run while being "profitable." Scope of environmental accounting is quite broad. It begins with the blue print and design of accounting systems and moves forward with the selection, adoption and implementation of the "most appropriate" green accounting norms that reflect the "correct position and accurate profitability" of the

firm by accurately measuring and recording the environmental costs pertaining to each stage of activity and incorporating these in the organisation's financial statement and books of account.

Hence, environmental accounting must form a part of, and integrated with; the organisation's accounting and reporting systems. It should be considered an item of strategic significance. Current as well as discounted present value costs must be carefully recorded at various stages in the firm's value chain and aggregated to ascertain the cumulative economic cost of running the business. The immediate demand of the society for goods and services must be balanced with the environmental sustainability. Environmental or Green accounting is hence of utmost importance for a business unit and plays a pivotal role in maximizing profitability and growth.

Organizational performance and environmental protection should not be seen as mutually conflicting objectives –rather they complement each other, in the sense that the environmental well being is imperative, a necessary condition for the long term success of a firm.

LITERATURE REVIEW

Bengü and Can (Bengü and Can, 2009) have advocated that green or environmental accounting is a cost benefit analysis that identifies and compares the gains accruing to an organisation by consuming the natural resources with the associated environmental costs. According to Alagoz and others (Alagoz and Yılmaz, 2001) environmental accounting is the technique used for assessing and recording the positive or negative impact of an organisation's utilization of environmental resources. Various authors and researchers (Raouf and Hamid, 2002; Memiş, 2009; Taşdemir, 2011) have propagated a similar view.

Celik (Çelik, 2007) has opined that environmental accounting seeks to examine the intricate relation that exists between a firm's accounting system and its environment. It starts with the process of collecting all pertinent information related to firm's environmental costs and checks the firm's awareness and state of preparedness to factor in such costs which can then be allocated to the various responsibility centres and processes.

According to Gray (Gray and others., 1993), environmental accounting systems result in more effective performance of an organisation's conventional accounting systems on both, financial and non-financial parameters. It hence acts as a catalyst for the improvement of organisation's traditional accounting systems. Scholars such as Altug, Haftac and others hold the view that environmental accounting is considered to be an accounting approach for identification of firm's activity that impact its environment and which could be expressed in monetary terms. Monitoring and reporting of such transactions is a critical function of environmental accounting. (Altuğ, 2008; Haftacı et al, 2008).

Traditionally, environmental accounting did not form a formal part of an organisation's accounting system. However, Şendroi and others are of the opinion that the discipline of environmental accounting has a wide scope as it covers almost the entire sphere of firm's operations. They have proposed that the output generated by environmental accounting can be put to great use in effective decision making process by firm's various stake holders including as government and the trade. (Şendroi et al, 2007).

Pearce has advocated that the prime objective of environmental accounting is to act as a watch dog in protecting the larger interests of the society as a whole; by providing reliable information and generating accurate and authentic output that measures benefits to the society as a result of firm's operations and the environmental costs that it has to pay to receive such benefits. It is hence an extension of firm's CSR. (Pearce et al, 1993).

According to Eray(Eray,2011), environment has assumed a "fiscal nature" as costs related to environment find place in firm's financial statements and reflected in the nation's economic policy. Environmental accounting has paved way for environmental costs to be incorporated in the firm's accounting system and has ensured that environment is treated in the books of account much the same way an item or a transaction of financial nature is treated.

GREEN ACCOUNTING: CONCEPTUAL FRAME WORK

Environmental or green accounting can be broadly categorized into two categories:

1. Organizational perspective-Micro View (EFA model, EMA model) : At the firm's level, environmental accounting takes two forms- Environmental financial accounting (EFA) and Environmental management accounting (EMA). Environmental financial accounting (EFA) is a primitive form of environmental accounting system with limited scope since it lays down emphasis on inclusion of only the environmental cost and their disclosure in the firm's financial statements. Environmental management accounting (EMA) on the other hand, is a more composite environmental information reporting system. It not only includes information about the organisation's environmental costs, but also extends its scope to include resource consumption and conservation information during each stage of operation. Hence it is an improvement over environmental financial accounting.

Both EFA and EMA models are firm's critical internal control tools which ensure that the organization "walks-the-right-path" and exhibits responsible corporate citizenship. By evaluating several mutually exclusive alternatives on the environmental decision making plane, it helps the organisation choose optimally sustainable environmental projects and activities which form a part of its business operation over a pre-planned time horizon. EMA is also instrumental in compilation and effective dissemination and reporting of the organisation's environmental initiatives which helps stake-holders evaluate its effectiveness on the environmental performance scale.

National perspective-Macro View (ENA) : The underlying philosophy behind Environmental National Accounting (ENA) is the comparison of benefit-cost at the macro level- what a country "looses" in terms of cost to its ecology and environment and what the society "gains" as a result of firm's operations. It is a comprehensive analysis of various activities of a contemporary organization with a view to understand and quantify their effect on the environmental. The output generated by ENA is used for economic planning, industrial development and control. It has a critical bearing on nation's research and development policy, promotion and establishment of green projects, creating business climate conducive for investment in the green sector and creating awareness about the pressing need to put environmental performance above the financial performance.

GREEN ACCOUNTING: REPORTING FRAME WORK

Environmental accounting or green accounting can be defined as an accounting information system that generates output data related to an organisation's business operations in terms of its impact on the environment by systematic identification, quantification and record of "environmental transactions" with a view to facilitate optimal coordination amongst diverse entities leading to . effective decision making which seeks to create a "delicate equilibrium" between the financial and environmental performance of a business unit, at both, micro as well as macro level. Each component of cost, direct or indirect, incurred by a firm for furthering its objective is examined in terms of its effect on the environment and cost-benefit relationship analysed. Environmental accounting systems are geared towards collating the costs and presenting these in an unbiased and transparent manner. It is a highly systematic five step process that moves sequentially as the firm starts using it.

What are we trying to achieve?

Environmental accounting starts with a clear vision of the environmental objective that the organisation seeks to achieve. In the first stage, precise, unambiguous & objective targets are set up for each responsibility centre at different stages of operation in a definitive time frame. Accordingly environmental plans are devised and commitment of resources scheduled.

Which Reporting parameters to use?

Once the environmental plan is drawn up corresponding to firm's long and short term operations, the various parameters that shall measure its environmental performance are crystallized. The firm chooses those parameters which are likely to be most accurate in describing the various aspects of its environmental costs and benefit analysis. Some of the important parameters in this regards could be energy usage, wastage and conservation; utilization of renewable and non-renewable natural resources, effluent discharge and hazardous waste management, workers safety and health management, reporting norms including disclosures-both voluntarily and under statutory obligation. Other than what an organisation is required to mandatory report in order to comply with legal provisions, there is no one-fixed-golden rule for all. What is more important is that irrespective of the type and number of reporting parameters used, the firm must give "a precise meaning" to the terms utilized for reporting so as to avoid confusion and ensure their accurate "measurably".

How would the performance be measured?

A clear cut action plan should be formulated to capture and measure only those aspects which were intended to be measured. The actual performance level must be compared with the pre-determined (desirable) performance level to ensure that the process stays on course and in control. The gap, if any, between the two should be bridges as soon as possible by tactical commissioning of resources or by adjusting the strategic orientation.

Report the Environmental Performance Results

The output of the previous stage is generated in form of reports and provides individual stage wise plan data as well as the aggregate environmental output. The impact of each activity level is considered on the

twin dimensional plane of financial and environmental performance. Clarity and objectivity in reporting is critical to evaluate the effectiveness of the firm's environmental policy.

Could we have done better?

On the basis of miscellaneous reports pertaining to various facets of the firm's environmental performance, the firm's performance is evaluated and its future environmental action plans drawn up. The limitations and problems encountered in pursuit of its environmental benefits-cost analysis must be critically examined and optimally dealt with to avoid its re occurrence in the next cycle. Organizations are primarily governed by the operative environmental laws in their parent country. However with the advent of globalization and the rise of transnational corporations, organizations are forced to comply with the international environmental norms to effectively compete in the world market. In Indian context, post Stockholm conference, 1980s witnessed a slew of legislation aimed at protecting the environment. Some of the chief laws are as follow:

- Environmental protection water(prevention and control pollution)Act, 1974
- Water (Prevention and Control of Pollution) Act, 1974
- The Forest Conservation Act, 1980
- The Air (prevention and control pollution) Act,1981
- The environment (protection) Act 1986
- Hazardous Waste (Management and Handling) Rules, 1986
- The National Environment Tribunal Act, 2010
- Hazardous Waste (Management and Handling) Rules, 1989
- Public Liability Insurance Act, 1991
- Public Liability Insurance Act, 1991
- Wild life (Protection) Amendment Act, 2002
- Biological Diversity Act, 2002

ENVIRONMENTAL ACCOUNTING- ADVANTAGES AND LIMITATIONS

Environmental or green accounting offers multiple benefits at both micro and macro level. A few prominent amongst these are:

- Environmental accounting is an effective internal control mechanism to monitor the environmental Impact of firm's operations.
- It helps a firm judiciously manage its scarce natural resources.
- It facilitates process improvement across an organization to reduce its environmental costs.

- It improves the firm's societal standing and helps maintain its sustainability.
- Environmental accounting yields specific information related to firm's environmental aspects and help in formulation of effective national plans. Environmental Accounting, however, is not without its share of limitations. Few of its main limitations are:
 - Ascertainment of relevant costs may not be easy due to lack of fixed environmental accounting standards.
 - Comparison of environmental performance of trans-national corporations may lack objectivity due to different accounting methods in vogue.
 - It is difficult to decide upon the precise present value discounting rate that should be used for environmental costs likely to be incurred in future.
 - Heavy investment required for re-design of process may restrict its utility in small and medium size organizations.
 - High research and development costs and escalating cost of technology acquisition can be an impediment.

CONCLUSION

Adoption and implementation of sound environmental accounting system is a prerequisite imperative for a contemporary business organisation's sustainability and success. Environmental philosophy must not be followed for name sake only. Neither should it be followed solely as a mandatory mercantile practice imposed by the legal and statutory framework and regulations. The twin factors of lack of awareness and organizational commitment, to the cause of environment has resulted in corporate houses in India having a dismal track record of voluntary disclosure of environmental costs in their books of accounts. These organizations have a myopic vision of their corporate social responsibility which is limited to their direct area of operation and interface with the stake-holders. "Environmental well being" does not seem to fit in their scheme of operations and is not their balance sheet item. Rather, the "environmental-intent" should be diffused throughout the organisation so that ownership of environmental concern is taken across various departments, accounting included.

This problem can be solved by enacting stringent legislation which leaves very little scope for voluntary or non-disclosure. Tax credits and other incentives can also be introduced to ensure maximum compliance. On the other hand, there is an equally urgent need for reform for introducing a set of uniform environmental accounting and reporting norms across different industries in manufacturing and services sector. The challenge is even bigger for the third world countries. As these nations lag behind the developed world in economic indicators, they must introduce measures to catalyst their growth. Environmental protection, however, is the key to sustaining the growth in the long run. That creates a problem, since there is no golden rule for a nation to balance its growth and development with the associated environmental costs.

Green accounting system is the operational blue print for monitoring and improvement of organisation's performance measured in terms of environmental parameters. It provides a road map which helps the business achieve its objective while being socially and environmentally conscious. The need of the hour is to evolve newer and better environmental accounting systems and for development of sound environmental standards. There is an ample scope of research in this area.

REFERENCES

1. Alagöz, A., Yılmaz, B. (2001), Environmental accounting and environmental costs. Selcuk University Faculty of Economics and Administrative Sciences Journal of Social and Economic Research, 1 (2), 147-158.
2. Altuğ, A.M. (2008), Environmental quality and environmental accounting. Marmara University Faculty of Economics and Administrative Sciences. 24 (1), 259-284. Weekend, V., Soylu, K. (2008), Accounting and reporting of environmental information. Kocaeli University Journal of Social Sciences Institute, 15 (1), 92- 113.
3. Bengi, H., Can, A.V. (2009), The Basis of Environmental Accounting Based on the Concept of Social Responsibility, Celal Bayar Ü. Journal of Social Sciences Institute, 7 .
4. Eray C, (2011), Importance of Environmental Accounting as a Social Responsibility of Production Enterprises: An Application on Manufacturing Operations in Mersin-Tarsus Organized Industrial Zone, Master of Business Administration, Karamanoğlu Mehmetbey University SBE, Karaman.
5. Gray, R., 2010. Is accounting for sustainability actually accounting for sustainability... and how would we know? An exploration of narratives of organizations and the planet. Accounting, Organizations and Society.
6. Memiş, M.Ü. (2009), Environmental Accounting as Business Management Instrument, Çukurova University FEAS Journal, 13 (1).
7. Blue Book. In: Arslan, C. B., Türksen, K., Publishing, A., editors. İstanbul: Renk Printing House. pp. 93-95, 107. International Journal of Economics and Financial Issues | Vol 5 • Issue 2 • 2015 573.
8. Pearce, D., Markandya, A., Barbier, B.E. (1993), • Tanc and Gokoglan for the Green Economy, The Impact of Environmental Accounting on Strategic Management Accounting: A Research on Manufacturing Companies.
9. Raouf, A., Hamid, M.A. (2002), Theoretical framework for environmental accounting application on the egyptian petroleum sector. Ninth Annual Conference of the Economic Research Forum; 2002 October.
10. Taşdemir, V. (2011), Accounting of Business-Environment Relations in Accounting, Master of Business Administration Thesis. Ankara: Ankara University SBE.
11. Şendroi, C., Roman, A.G. (2007), The environmental accounting: an instrument for promoting the environmental management. Theoretical and Applied Economics
12. Steel, M. (2007), environmentally sensitive accounting. MUFAD Journal of Accounting and Finance, 33 (2007).