

Environmental Costs and Environmental Information Disclosure in the Accounting Systems

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Abstract Nowadays, the effects of human societies have increased on environment due to technological and industrial development. So environment variations could affect human beings like other animal species. Given the importance of environmental costs, one can consider them as a parts of final cost of products or services in business units, so failure to report these costs in financial statements cause to firstly that environmental costs remain hidden and unknown to the management and necessary actions to control them fail to do, and secondly that failure to report environmental costs as a parts of final cost would undermine the most important qualitative characteristic of accounting information namely their reliability. This environmental accounting facilitates environmental costs management and reducing costs through making the relationships between costs and their underlying activities. Researches in recent years led to the criticism about the framework of traditional financial reporting and its ability to provide a complete list of company activities and its accountability. Social and environmental reporting is a tool to account companies against their performance. The reports should provide impartial information which allows beneficiaries to provide a reliable estimation of their social and environmental performance.

Key words Social and environmental information disclosure, political economy theory, the beneficiaries theory, legitimacy theory, organizational theory

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1. Introduction

Chastain (1973), Gambling (1974), and Dierkes and Prestons (1977) found the relationship between the accounting, organizations and society in 1990, the concerns focused on environmental issues.

Nowadays, environmental accounting is developing fast, especially in multi-national big companies which found that an appropriate environment is necessary for competitive success in long-term and environmental accounting is considered as vital tool to reach it (Nasirzade, 2009).

This article aims to show that why developing a comprehensive system for environmental accounting is necessary for organizations and why they should reports results of this system to stakeholders. It is assumed that the companies should be responsible vis a vis the society. The company legal responsibility is clarified through giving attention to environmental effects of the company activities in the area of environmental compliance.

The environmental advantage has been stated through environmental accounting and shows that companies can improve their environmental performance through environmental accounting, regardless their size and their development stage.

The business units should found the strategic value of management accounting and the ability of using modern technologies like activity based costing (ABC), and quality accounting (COQA) (Nasirzadeh, 2009).

2. The theories of social and environmental information

In two last decades, there have been many researches about the theories of social and environmental information discloser and reporting in the companies of developed countries. These

theories include political economy theory, legitimacy theory, the beneficiaries' theory and organizational theory.

Political economy theory: The political economy accounting theory was derived in 1990 from Parker's writings based on social and environmental accounting literature. According to Parker's writing, the existence of an organization is dependent on the general support of society. If it is observed that an organization has been involved in unfavorable social activities, the society avoids confirming that organization and this leads to its destruction. Also, the social and environmental disclosure is used as a management tool in face of social and political pressures instead of informing stakeholders (Parker, 2005).

Legitimacy theory: This theory has been derived from the political economy paradigm and focuses on the assumption that an organization should reserve its social role through responding to society requirements and giving the community what it wants. The companies increasingly try to show their positive operations to social activities outstandingly, in order to achieve legitimacy and show a favorable image of their company. In the past, profit maximization was a good benchmark for the legitimacy of an organization, however, given changing expectations in societies in recent decades, the standard of legitimacy in organizations is that they avoid harming the environment or compensate incoming damage. This theory is widely used to explain social and environmental information reporting motives. More the social pressure on companies, more they need to give their activities legitimacy in front of society and more they use such tools as social and environmental information disclosure (Alikhani *et al.*, 2014).

The beneficiaries' theory: This theory can be used to explain voluntary disclosure, firstly because this theory distinguishes between the beneficiaries and society issues and secondly because this theory suggests an application framework to evaluate the social responsibility of the company using social and environmental information disclosure. Since according to the ethical directory of beneficiary theory, the beneficiaries have the right to receive information about organization activities and investors as the beneficiaries pay attention to annual reports, the companies disclosed social and environmental information in response to information requests of stakeholders (Alikhani *et al.*, 2014).

Organizational theory: This theory investigates the way organizational structure and activities formed through social, political and cultural powers which encompasses these institutions are the organization should interact to their environment and its different institutions to stabilization. According to this theory, organizational activities limit through different external pressures and organizations should respond to external requests and society expectations according to the assumptions of this theory (Alikhani *et al.*, 2014). The factors considered in environmental accounting reporting are:

1. Incoming harms to environment;
2. The responsibilities of companies towards these harms;
3. The revision of the relationship between industries and environment and the use of natural sources;
4. The evaluation of environmental impacts harms;
5. The necessity of reporting environmental cost.

1. Incoming harm to environment

The human will be faced to a wide wave of environmental problems in the third millennium. According to studies (Koveh, 2007), incoming harms have become more severe from 1970 to 2000. It is expected that in not too distant future environmental pollutions give a decreasing process through the knowledge of human societies about the effect and outcome of this (Beck 1992-1999).

Beck has classified environmental threats as environmental risk. The human generation is faced to this risk. Since he lives in a risky society which is different from earlier societies. Beck stated "environmental disasters and nuclear radiation ignore the boundaries of nations. These not only threaten the well-being of society but also affect the legitimacy of assets and profit"

The environmental problems of the increasing of human societies activities. A fourth of earth lands are becoming deserts cause of drought.

- Forest rains had decreased by forty percent from 1990 to 1995;
- The number of eudonated plant and animal species has increased from 230 in 1970 to 35000 in 2000 (Kovel, 2007);

- Forty percent of agricultural lands lost their qualities;
- The half forests and the half of fertile lands(deltas) have been lost;
- Natural habitats and settlements are disappearing (Jones, 2010);
- Contamination density has harmfully increased in both sea and land.

Nowadays, the industries aren't lonely responsible for their economic performance, but they should response to public and compliance of social issues. So in present age, the protection of environmental and reporting these costs is an undeniable necessity (Borzozadeh, 2012).

2. The responsibility of companies towards environmental harms

Given increasing environmental issues around the world, the manufacturing companies should accept their responsibility of compensation of environmental costs and report them in their financial statements. The legitimacy of the organization is only acknowledged by accepting dominant ethical standards in society. Information disclosure about environmental costs is an effective tool to achieve competitive advantage and improve companies' credibility and social location (Borzozadeh, 2012).

According to kastanza studies, the economic value of seventeen used ecosystem (e.g. oil sources, mines and atmosphere)

Have been estimated over 18 trillion dollar per your in America in 1990's. Give the extraordinary importance of achieving personal interests for individuals and organizations, the use of natural resources and accordingly environmental pollution have increased and this problem necessity government's intervention. In present, some issues like the compilation of regulations about environment protection, the determination of efficient standards in reporting environmental costs and severe punishments for environmental pollution, should be considered more than ever. Some company's whit short- term views and no respect for governmental regulations and self-controlling may harm society and maybe themselves in long- term. So the business should protect the environment in long term because the nature has extra value the nature has an internal value (Mchanc, 2007).

The human should care of earth living because these have an internal value (Rolston, 2006).

3. The revision of the relationship between industries and environment and the use of natural sources

In long term, incoming harms to environment should be compensate and natural places and should be revived. This probably means that the contamination of the word should be decreased if not stopped, until it reaches to a balanced situation.

So in short terms, minimizing the effects of human on environment is more important than achieving an affordable development (this is a development which is acceptable and affordable to future generation considering the consumption of resources and the manipulation in environment (Borzuzadeh, 2012).

4. The evaluation of environmental impacts and harms

To environment has a significant importance and so it is required to use some measurement tools which are appropriate to subject.

Accounting information is one of the most effective tools in measuring in commercial and economical issues, so that the accounting is considered as the business language. Quantitive information reported through accounting system have an effective role on understanding company performance, managers performance (especially financial managers), costs related to environment and other cases (Borzuzadeh, 2012).

In compilation of traditional accounting systems, some issues like measurement and reporting costs haven't been considered, so this system hasn't sufficient efficiency to disclose these kinds of costs. Many experts believe that changing current accounting systems is necessary in order to measure and report environmental costs. However, applying these changes face to some limitations one limitation is this area is the lack of specific and compiled standards to measure and report environmental cost.

Although IASB have issued some regulations about reporting the costs of house green gas emissions (CO₂), (Cook, 2009), still the main problem in this area is the lack of comprehensive and specific standards about reporting environmental costs. Some of the most important reasons of the ineffectiveness of traditional accounting system in reporting environmental costs are:

- The aim of traditional accounting system which is acquiring profit and maximizing the company value (investment concentration), is not consistent to the aim of environmental reporting.
- The environment is like a public good for all people in a community and none can claim exclusive ownership on it. In traditional accounting system only cost which have intangible economical interests is identified. Since environmental costs don't lead to specific assets ownership, so reporting and the measurement in traditional accounting are ambiguous.
- Environmental costs have some interests for company and society through improving circumstance. The measurement and reporting the amount of these interests in financial statements is impossible cause of the ineffectiveness of traditional accounting system. Although these interests can't be estimated in rails, but it leads to increase the value of company stocks (in stock markets) through its importance in society (as green industry). Companies only disclose environmental costs in appendix notes of financial statements case of the difficulties in measuring the results of environmental costs. So an appropriate disclosure face to difficulties cause of not reporting resulted benefits.
- Earning profit in every way is allowed in traditional accounting system, it means that some activities like indiscriminate felling of trees, natural habitats destruction and polluting the air are permitted for earning profit. This differentiates between the views of environmental and traditional accounting systems.

The limitation and ineffectiveness of current accounting system in measuring and reporting environmental costs lead to genesis of a new branch in accounting namely environmental accounting.

This is a branch which its function is to identify, collect classify, abstract report and interpret the information about environmental costs and to consider this information in computing the final cost of good and services (Nazaripoor *et al.*, 2014).

5. The necessity of reporting environment costs:

The disclosure and reporting of environmental effects in this critical situation can be effective for natural resources owners and stakeholders (natural assets), land owners don't have right of land destruction simply because of their ownership, because the land is a natural resource and they should respond to public and the law

Accounting has a key role in preparing and forwarding this information and successful organizations are searching wide legitimacy by accepting their social responsibilities about commercial activities (Hartman *et al.*, 2007).

The right of representing and informing is identified as a significant aim in accounting both in public and private sectors. This view states that companies don't have to simply care of environment, but they should account their environmental activities too. Also this accounting should be reported in a formal way. In common, this should be realized through dicing in annual statements or in separate environmental reports.

In environmental accounting, the organization should report every activity which harms the environment, in addition to measuring and reporting natural resources. Since is it believed that these activities have direct or indirect effects on company's assets and performance (Willis & Good Fellow, 1991).

In environmental accounting, the environment is considered as a source of capital and its costs are considered as some of acceptable tax expenses. The aim of this accounting is to present information to managers in such areas as performance evaluation, making decision, control and reporting (Nazaripoor *et al.*, 2014).

3. The way of reporting environmental cost

The most important subject in reporting costs is to identify them. This means disclosing information in the context of financial statements. Costs should be reported as current costs, "previous periods adjusting "and capital expenditures. The determination of the topic of environmental costs requires the determination of a period in which the interests resulted of these costs is realizable. the aim of this work is to compliance the conformity principle of cost and incomes in each period, some environmental costs imposed in current period (such as cleaning costs and paying penalties) cause of incoming harms in

previous periods should be considered as previous periods adjusting and some costs which have some economical interests in future periods should be considered as capital expenditures and be reported as expected future expenditures. According to 90-8 publication which published in 1990 by "financial accounting standards compilation board", environmental costs would only be considered as capital expenditures if they have one of the following conditions:

- Costs which increase production capacity or property useful life or improve the efficiency or safety of costs which has been done to prevent (or decrease) environmental pollution and are somehow related to future activities of company.
- Costs which be applied to prepare some properties that are to be sold. Expected future expenditures could only be identified when the match the standards of liabilities recognition according to conducted research in Portugal, about 70% of active companies of these country, disclosed costs related to environment in the report of directors board to stakeholders. The remaining 30 percents are presented in annex notes. The companies which present their environmental costs in financial statements are rare. In Portugal, Lipour Company is one of these companies which disclose its environmental costs in its balanced sheet from 1999. According to Digan (1995) few Australian companies use environmental accounting system. Gery (1998) believes that people in Britain have little information about environmental issues and their financial effects of its reporting methods.

In fact, it is interpreted that the majority of companies aren't willing to disclose the information related to environmental costs in their financial statements, because they believe that this practice would impose some commitments for companies (Ferreira, 2004).

Using Activity-Based Costing: The distribution and indirect nature of many environmental cost, increase the likelihood of underestimating them, while in analyzing costs in traditional accounting systems, the environmental "aspects haven't been emphasized.

Environmental accounting should originate from understanding material and energy flows and environmental effects so that be able to trace the organization of environmental costs. So it is required that the amounts and importance of environmental costs would be estimated. Personnel and supervisors require a timely and related feedback so that the outcomes of their activities in achieving environmental aims would be understand. It have maximum efficiency when is reported in material numbers (non-financial) and in time and is registers and traced regularly and targeted in formal accounting systems from work, and otherwise it would be considered invisible and insignificant .

Using Activity-Based Costing (ABC) and Activity-Based Management (ABM) decrease environmental costs significantly and improve environmental performance. With the help of these methods, one can relate costs to producing activities and some productions and processes which require these activities and this makes one able to assign costs more accurately to productions and processes than traditional accounting systems which assign environmental cost to production and processes in non-targeted and non – distinguishing way.

In ABM, the principle is that one can't manage costs directly, but he can manage the activities which create these costs, so it is required that it is specified that activities create which costs and what leads to these activities (Nasirzade, 2009).

4. Conclusions

Traditional accounting paradigm can't involve environmental consequences of organizational activities since it has special stricture on accounting numbers and figures. An environmental accounting system is required to measure and disclose destructive environmental effects of companies. This issue should include other cases about accounting for air pollution, water contamination and natural resources extracting.

Recent studies about environment, financial issues and management accounting show that accounting and accountants may achieve positive outcomes in this area.

Environmental costs mat be controlled in designing, producing and giving production services and their production processes.

The companies increasingly try to show an outstanding image of their positive cooperation in social activities to acquire legitimacy and so they have turned to reporting.

The development of environmental accounting is a complex and interdisciplinary issue which requires coordination and synergy between some fields like economy, accounting, management, philosophy and psychology (Herath, 2005).

Environmental aims and performance non-financial standards may be contributed in performance evaluation and budgeting system. It is proposed that company's managers use company's financial resources in disclosing social and environmental information as a tool to advertising company's favourable prestige and strengthen company's environmental reputation and legitimating their activities in order to affect stakeholders.

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