Environmental auditing; Conceptual framework and contribution to the business environment

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Abstract:
The increasing consciousness of environmental protection has fostered the development of environmental management systems (EMS) and consequently environmental auditing. Within the globalized economy, environmental auditing is established as an essential mean for the management of environmental performance. Despite the crucial importance of environmental auditing, nowadays, little attention has been paid to this knowledge field by researchers, academics and enterprises. The purpose of the present paper is to examine in a theoretical level the concept of environmental auditing and demarcate its provinces in the fluid business environment. The study’s originality is the provision of an integrated conceptual framework regarding environmental audit via an extended literature review. The results of this literature review indicate that environmental auditing adds up value, offering at the same time a systematic scientific approach on the improvement of the business environmental effectiveness. In light of findings made, the paper concludes with further discussion and suggests the promotion of environmental management and auditing as an attractive and inexpensive business strategy.

Keywords: environmental auditing, environmental management, audit types, environmental matters, EMAS.
1. Introduction
Global environmental issues such as climate change and increasing waste production have moved to the forefront of social consciousness (Ehrlich and Ehrlich, 1990; McMichael, 1993; Odum, 1998). Adoption of an environmental policy is one of the main requirements of an organization undertaking a “green” strategy, whereby environmental concerns are considered of major importance (Brown, 1996). In light of this development, environmental accounting and consecutively environmental auditing appears to be attracting increasing attention (Guilding and Kirman, 1998; Schaltegger and Burritt, 2000; Warnken et. al., 2004).

The audit of financial statements necessitates the auditor to pay attention to environmental matters as part of the regularity audit (INTOSAI Working Group, 2004). The development of environmental auditing is the result of the need to employ internal effective tools to manage environmental issues (Hillary, 1998). The paper is organized as follows. Section 2 presents the literature review that is concerned with environmental auditing. Section 3 states and discusses the conceptual meaning of the term “environmental auditing”. Then section 4 depicts the types of the environmental audit. Section 5 analyses the contribution of environmental auditing in business environment. Finally section 6 contains conclusions, remarks and proposals for future research concerning environmental auditing.

2. Literature review
During the past twenty years a significant new literature has emerged concerning environmental auditing and business strategy leading to the exploration of the contribution of their interaction. New publishers, authors, journals and companies now sponsor or publish reports and papers on environmental themes providing extensive coverage of many issues that are relevant to the environmental business strategy.

At first, Elkington (1990) presented a comprehensive guide to the use of environmental audits.

In this period three academic journals, Environmental Auditors, European Environment and Business Strategy and Environment are published concerning environmental matters (Roberts, 1992).

In 1993 a survey conducted by Waste Management Journal depicted that only 54% of companies in UK performed an environmental audit (Smith and Billington, 1993).

In the same period, Christensen and Nielsen (1993) examined the use of environmental auditing methodologies and their correlation with the government authority.

One year later, Wright (1994) emphasized that environmental auditing should form an integral component of environmental management systems and should not be considered as a separate or alternative procedure.

In the same period Specht and Buhr (1994) illustrated the major role of accounting profession in the area of environmental auditing.

Maltby’s article (1995) aims to elicit the views of environmental auditors about the purpose of their audit.
Simultaneously Porter and Van Der Linde (1995) attempted to list firms that have diminished costs as a consequence of undertaking environmental auditing.

More recently Nyguist (2003) presented a survey of how auditing environmental information is depicted in annual reports of Swedish accountants.

Simultaneously Zutshi and Sohal (2003) presented a survey which attempts to identify the reasons for carrying out environmental audits within Australasian companies.

A survey conducted by Emery and Watson (2003) also found that on the one hand environmental auditing offers positive legal and economy, on the other hand benefits prosecutions for environmental offences will continue to increase.

In 2004 Chiang and Lightbody analyzed the accountants' involvement in environmental audits in New Zealand. In the same period ten countries joined the European Union and for this reason Watson (2004) attempted to examine environmental auditing in the “new Europe”.

### 3. Conceptual Framework of environmental auditing

It is a fact that there were definition problems with the term “environmental auditing” and environmental auditing was not clearly defined (Cahill, 1992). The term did not have a single and universal meaning and had associated with a variety of activities (International Chamber of Commerce, 1991; International Auditing Practice Audit Committee, 1995).

However, International Chamber of Commerce (1989) first attempted to define environmental auditing as “a management tool comprising a systematic, documented periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment” The definition’s key-word is “management”. The nature of the environmental audit is determined by management policy. Furthermore the evaluation process must be systematic and documented (Smith and Billington, 1993).

In this context, Canadian Institute of Chartered Accountants (1992) demonstrated that a variety of services is defined as environmental auditing.

The emphasis in management is also apparent in the draft British standard on environmental management systems. This defines environmental audit as “a systematic evaluation to determine whether or not environmental performance complies with planned arrangements, and whether or not these arrangements are implemented effectively, and are suitable to fulfil the organisation’s environmental policy”(Maltby, 1995).

In this sense, environmental auditing is defined as a management tool which on the one hand gives advice on future action on the other hand sets appropriate procedures that provide feedback on progress (Wade, 1995).

More recently, environmental auditing (EA) was defined as the process of measuring the actual and potential environmental impacts of public and private sectors within the business industry (Diamantis and Westlake, 1997; Diamantis, 1998).
Furthermore, according to Hillary (1998) environmental auditing is the concept which comprises a variety of auditing activities with environmental scope.

4. Types of audit related with environmental issues
Firstly, environmental audit is categorized in internal and external environmental auditing (Dittenhofer, 1995).

Via an extended literature review three types of audit are strongly related with environmental issues (INTOSAI Working Group, 2000):
- Financial statements
- Compliance audit
- Performance audit

Environmental issues which may affect the financial statements are:
- Expenses relevant with the environment protection
- The conservation of renewable resources
- The compliance with the environmental legislation.

Furthermore compliance auditing with regard to environmental issues provide assurance that business is functioning in accordance with environmental regulations and laws (INTOSAI Working Group, 2004).

Finally performance audit may include environmental programs that are performed in an economical, effective and efficient way (Environmental Auditing Organization, 2007). Performance audits measures the environmental performance of the organization and attempts to identify the chances for improvement. In this context performance audit could be a basis for defining objectives and measures which should be attained in the future (Letmathe and Doost, 2000).

In connection with the above discrimination of audit, according to other researchers twelve audit types are correlated with environmental auditing (Business International, 1990; Lewis and Moriyama, 1990; Hillary, 1998). These audit types are:

1. Associate audit
2. Compliance audit
3. EMS audit
4. Corporate audit
5. Activity audit
6. Issues audit
7. Process safety audit
8. Energy audit
9. Health and Safety audit
10. Site audit
11. Waste audit
12. Supplier/Customer/Contractor audit

Other discrimination is stated according to Stanwick and Stanwick (2001). In this context environmental audit types are:
- compliance audits,
- pollution prevention audits,
- transactional audits,
- product audits, and
- environmental liability accrual audits.

Compliance audits determine whether or not activities are in accordance with the legal constraints imposed by regulations. They are detailed site specific assessments of past, current and planned operations (Sawyer et. al, 2005).
Pollution prevention audits examine the manufacturing process to discover whether alterations to the manufacturing process could be implemented that would result in the reduction of waste (Stanwick and Stanwick, 2001).

Transactional audits depict the potential environmental risk associated with asset transfers (Stanwick and Stanwick, 2001). They are also named: acquisition and divestiture audits, due diligence audits and property transfer evaluations (Sawyer et. al, 2005).

Product audits examine whether the products being created in the manufacturing process are in governmental compliance pertaining to chemical and recycling regulations. Product audits can also be used to ensure consumers’ expectations pertaining to the product impact on the environmental are satisfied.

Environmental liability accrual audits are used to identify and report the liability accruals for all known environmental issues pertaining to the organization.

Each of these components is not independent of the others and a comprehensive environmental audit would address multiple issues at the same time.

5. Contribution of environmental auditing
Environmental auditing and its importance within industry is worthy of detailed discussion.

At first environmental auditing measures the effectiveness of management processes and consequently the effectiveness of the systems concerning the environmental matters (Smith and Billington, 1993).

In this context, Campbell and Byington (1995) claimed that environmental auditing assists in:

- reduction of fines for regulatory incompliance
- early identification of problems (Kim, 1997)
- cost saving from waste
- enhancing the reputation for environmental responsibility.

In this sense, Goldsmith and King (1997) stated that environmental auditing assists the business economically by exposing inefficient employees and departments.

Moreover, it is found that the insertion of environmental audits within current management systems will increase the manager’s attention to both environmental and traditional tasks (Sinclair-Desgagne and Gabel, 1997).

Environmental audits also allow benchmark measurements of the company’s commitment to the environment. The benchmark-based data could be used internally for aiding in top level decision making (Stanwick and Stanwick, 2001).

An environmental audit may also allow a company to present a positive image to its external stakeholders by providing evidence of its commitment to the environment (Zutshi and Sohal, 2003).

Apart from stakeholders, nowadays, the amount of environmental legislation that businesses and other organizations have to comply with is being increased. In this sense environmental audits ensure that a company is complying with all relevant government regulations and reducing the potential legal liability of the company’s managers (Watson, 2004).
Finally, according to Sawyer et al. (2005), environmental auditing provides essential information relative to environmental risks and environmental matters and consequently environmental auditing decreases environmental and operational risk.

6. Conclusions
It is now generally accepted that environment affects all kinds of economic activity and that the perceived implications and consequences of this interaction have changed considerably in the recent years. The environment and business relationship have now become a matter of major public concern.

The area of environmental accounting and auditing is probably one of the most dynamic and yet important subjects to come to our attention. Environmental audit is currently at a crucial stage in its development as there is a growing demand for audit services. What has yet to be formed is a consensus among theory and practise. A limitation of this study is that it is not focused on any specific industry sector or organizational size to any great extent. For this reason it is recommended further research to take a more focused approach by examining the matters reported in this paper in different areas of industry sectors and organisational size, and evaluate the development of individual elements and steps of the approach. Also further research might usefully refine the actual and potential impact of environmental auditing on business environment, by examining case studies of environmental audit work in practice. This research did not have the intention of concluding the discussions over this matter; however, it is expected to be one more element to help the formation of opinions and to diffuse other discussions on the subject.
References


