

Accounting and Sustainability: Review of International Legislations

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Abstract: A growing number of investors perceive sustainability as a catalyst for enlightened and disciplined management, and, thus, a crucial success factor and so sustainability might be accepted as an evolving management paradigm. As a result, investors are increasingly diversifying their portfolios by investing in companies that set industry-wide best practices with best practices with regard to sustainability. At the business level sustainability is often equated with eco-efficiency. However, such a reduction misses several important criteria that firms have to satisfy if they want to become truly sustainable. Sustainability for companies emphasizes social, economic and ecological responsibilities of corporate beside of the financial responsibility. Advocates of sustainability implicitly claim that corporate cannot be managed by traditional business models. Sustainability is an alternative approach to traditional growth and profit maximization model. The emergence of sustainability as the complex notion through which social and environmental issues must be addressed has had a growing influence in the accounting literature. Research linking accounting to the emerging concept of sustainability surfaced in the early 1990's and has received continuing attention in academic and professional accounting literature. In addition to explorations of what sustainability may mean for accounting and finance, we have experienced a growth in both critiques of sustainability reporting and in experiments and speculations on how accounting for sustainability might advance. This growth has very properly attracted critique. One convergent theme in that critique has been a challenge that much of the realist and procedural baggage associated with conventional accounting is no longer apposite when seeking to account for sustainability. What may be required, is a more nuanced understanding of what 'sustainability' actually is and how, if at all, it can have any empirical meaning at the level of the companies. In this study historical development of the concept of sustainability, advantages of sustainability, main principles, standards and performance indicators of sustainability, the international legislations on sustainability, contemporary debates about how to achieve it; and obstacles and the prospects for overcoming them are discussed.

Keywords: Sustainability, Accounting, International, Legislation

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I. Introduction

The development of social and environmental accounting and reporting over the last 40 years or so has resulted in a wide range of actual and potential accounts of organisational interactions with society and the natural environment. For all their strengths and weaknesses, such accounts can be understood as narratives of local events articulating the relationships of the organisation with its "stakeholders" and/or its immediate substantive environment. When, sometime during the 1990s, we began to organisations speak about "accounts of sustainability", this linguistic turn, deliberately or not, drew our attention to a global scale. No longer were accounts potentially parochial things, loosely articulated through ill-specified notions of accountability and responsibility whether it be the failures of organisational accounts to (say) discharge accountability or the failures of its proponents to embrace real politik or to sufficiently embrace the contested nature of any such accounting. Environmental accounting and its most evolved form sustainability accounting (Elkington, 1993), have received continuing attention in the academic accounting literature beginning with the work of Gray in the early 1990s, through to the release of the Sustainability Accounting Guidelines at the World Summit on Sustainable Development in Johannesburg in August, 2002. Indeed these accounts might most easily be interpreted as how organisations would like to understand sustainability and how, in turn, it would convenience them if the body politic would accede to such a view. Furthermore, to assume that the notion of "sustainability" has tangible meaning at the level of organisation is to ignore all we know about sustainability. Sustainability is a systems-based concept and, environmentally at least, only begins to make any sense at the level of eco-systems and is probably difficult to really conceptualise at anything below planetary and species levels. So whatever else organisational 'accounts of sustainability' are, they are probably not accounts of sustainability. The same reasoning, however, also applies to the proposals and experiments that have sought to challenge current

organisational reporting practices and offer something that looks more like an account of sustainability. In all probability, these are unlikely to be accounts of sustainability either. And, if they are probably not ‘accounts of sustainability’, what, indeed, are they? This brings us to the principal thrust of this essay: To what extent, if at all, can we account for sustainability at the organisational level? More especially, what is this sustainability that we wish to account for and why would we wish to undertake such an accounting? Should we, in fact, seek to construct accounts about it. This paper reviews and consolidates this research into a sustainability accounting framework that captures the breadth and complexity of this new form of accounting. The framework examines on the traditional management paradigm criticisms whilst the content of the sustainability accounting framework is derived from the various approaches taken by accounting researchers to link accounting to sustainability over the years.

2. The Concept of Sustainability and Sustainable Development Approach Contributing Formations

Sustainability advocates argue the businesses continue to do the job, now known as the traditional methods is difficult (Tokgöz & Once, 2009). The most common way in which economists have analyzed the concept of sustainability is by incorporating explicitly the finite stock of a natural resource in the traditional models of economic growth, and studying the conditions under which this finite stock of the resource generates a constant per-capita consumption flow along the time (Figueroa et al., 2010).

One of the outcomes of both an increasing interest in sustainability and the predominance of economic language in policy making is that many indicators-centred urban development projects work from within a model first developed in economics as an add-on to the bottom line of profit – the ‘triple bottom-line’ model. In general, these approaches aim to measure impacts upon the economic, social and environmental ‘bottom lines’ of organizations, communities and regions as if they were corporate entities. These approaches tend to presume that economic, social and environmental sustainability are either commensurable a priori of other considerations, or that the economic domain (which in conditions of globalizing capitalism grants primacy to efficiency and growth) provides the basis for translating between them. For example, instead of treating the ecological as having its own imperatives, the environment becomes an economic ‘externality’: another cost to be considered when engaging in economic activity (Scerri & James, 2008).

With the growing body of literature on sustainability accounting, two lines of thought are becoming evident: first is the philosophical debate about accountability and whether accounting contributes to sustainable development or whether it blurs the view and constrains management from taking the necessary steps towards sustainability. Second is the management perspective which examines the issues of dealing with the information complexities associated with varied terms and tools to help make steps towards sustainability (Schaltegger & Burritt, 2010).

2.1. Traditional Management Paradigm Criticisms

There are many management theories and approaches that loosely fit into a dominant managerial worldview. In the traditional worldview, organizations have been described as economic and legal entities created by groups of people who have common or, at least, compatible goals. Organizational promoters invest their own and borrowed resources to accomplish their goals. Organizations are systems of production, serving the goals of stakeholders and operating in a dynamic economic, social, and political environment. Economic organizations or corporations have received much attention by researchers in organizational/management theory. Postindustrial societies are characterized by the following economic, social, and political attributes. Shrivastava identified four key assumptions that act as limitations in dealing with the organizational challenges of a risk society: (a) a denatured view of organizational environment, (b) production/consumption bias, (c) financial risk bias, and (d) anthropocentrism. These assumptions are not equally and uniformly common to all theories in the traditional management paradigm (Shrivastava, 1995).

2.2. The Theory and Concepts of Origin of Corporate Sustainability

‘Sustainability’ has moved to occupy centre stage of global debates. Although there is a range of positions in regard to social and environmental justice, it is evident that urgent action is required to address issues such as climate change, loss of biodiversity, deforestation, extreme poverty and the like. It is also evident that economic, environmental and social issues are intertwined. For example, the 2007 report of the Intergovernmental Panel on Climate Change predicts that between 75 million and 250 million Africans will be exposed to increased water stress due to climate change with obvious health and economic implications, and that nearly all European regions are ‘anticipated to be negatively affected by some future impacts of climate change, and these will pose challenges to many economic sectors’ (Hazelton & Haigh, 2010).

The United Nations (UN), through the Brundtland Commission, was perhaps the first authority to provide a definition of “sustainability” but it has been commented on somewhat critically by others, and other definitions have been offered. Some authors believe that, “Sustainability is a complex concept that is far from being fully developed and understood” (Kelly & Alam, 2009). The notion of sustainability is rooted in the wider concept of sustainable development. Many definitions of sustainability and sustainable development exist, but arguably the foremost is from the Brundtland Report, which is used by many governments and organizations: “Sustainable development is development that meets the needs of current generations without compromising the ability of future generations to meet their own needs” (IFAC Sustainability Framework 2.0, 2011; Walsh et al., 1999-2002). The concept of sustainable development is essentially simple, and there are two distinct components to deal with. The intragenerational component in which the use of the limited natural resources of the Earth by a minority of people living in the wealthy nations jeopardizes the desired global sustainability, and the intergenerational component, in which the same disproportional use of these resources deprives future generations of the welfare enjoyed by the present ones. Both components of sustainability depend on the availability and the distribution of non-renewable resources and any proposed metric to measure or monitor the sustainability might include this parameter (Giannetti et al, 2010),

Sustainability demands an understanding of the world's problems as systemically interconnected and interdependent. As the World Resources Institute has concluded, "the concept of sustainable development is based on the recognition that a nation cannot reach its economic goals without also achieving social and environmental goals that is, universal education and employment opportunity, universal health and reproductive care, equitable access to and distribution of resources, stable populations, and a sustained natural resource base" (Gladwin et al., 1995). Sustainability has three important dimensions (Gould, 2011): (a) economic viability, (b) social responsibility, and (c) environmental responsibility.

Accounting has long been implicated in perpetuating unsustainable practices. Far from being objective and neutral, accounting has been revealed as a highly partisan act accused of ignoring the adverse social and environmental impacts of organisations. Attempts to recast accounting as a positive force through such mechanisms as triple bottom line accounting or the Global Reporting Initiative have been controversial to say the least. Further, the lack of mandatory reporting regimes in most countries leaves social and environmental accounting open to be used for promoting corporate interests as opposed to genuine accountability (Hazelton & Haigh, 2010).

According to Wilson (2003), four established concepts underpinning the idea of corporate sustainability;

1. Sustainable Development; Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Development involves a progressive transformation of economy and society. But physical sustainability cannot be secured unless development policies pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits. Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation (Brundtland in The World Commission on Environment and Development, 1987).

2. Corporate Social Responsibility (CSR); the concept of sustainability has come the concept of CSR; again this is a term that does not have a universally agreed definition attaching to it: “The meaning of CSR has changed dramatically over the past decade”. “CSR is a term describing a company’s obligations to be accountable to all its stakeholders in all its operations and activities. Socially responsible companies consider the ramifications of their activities on communities and the environment making decisions” (Kelly&Alam, 2009).

3. Stakeholder Theory; Stakeholders on the success of businesses establishing and maintaining good relationships is widely influenced by acceptance. Stakeholder theory, a concept of strategic management and helps companies develop competitive advantage (Tokgoz & Once, 2009). Stakeholders impose demands on organisation and bestow societal legitimacy if organisations meet these demands; or face negative consequences such as decreased shareholder value through lawsuits, protests, and boycotts. The stakeholder approach to corporate social responsibility theory takes into account the multi-fiduciary obligation of corporations by recognising that their responsibilities go beyond the shareholder-management relationship (Wilson, 2003).

4. Accountability Theory; accountability is the key of concept of modern management theory and practice. Certain tasks and fulfill the duties of the managers of these concepts and standards to comply with the rules and responsibilities of a team means to install (Samsun, 2005).

2.3. The Emergence and Contribute to the Development Providing Formations of Sustainable Approach

Since the birth of the concept of CSR and over the past decades, CSR has grown to a complex and versatile notion which is increasingly central to today's corporate decision making. There is a confusion surrounding its measurement, because of the significant ambiguity concerning the definition of this concept (primarily caused by the relative emergence of the phenomena in companies and its integrative effects on other disciplines) and what it involves, which could provide a framework or model for systematic collection, organization and analysis of corporate data related to these issues: in certain cases, Social Performance is assimilated with measurements of one's attitude towards CSR; in others it is confused with Corporate Citizenship. Five approaches suggested to measuring, monitoring and assessing a company's progress towards Sustainability: measurements based on analysis of the contents of annual reports, pollution indices, perceptual measurements derived from questionnaire based surveys, corporate reputation indicators and finally data produced by measurement organizations (Avetisyan, 2010).

Sustainable development approach, since the early 1960's on the Although the 1987 Brundtland Report, owes its popularity began to be spoken. Development of a new perspective to the concept of angle of approach to sustainability, which, nearly 20 years, many institutions, venture, academics, consultants and business partners has been the focus of attention. Below the spread of this idea and discussion of the applicability of the milestones that have an impact are discussed in chronological order (Tokgöz & Once, 2009):

Table 1: Formations Contributing to Sustainability

| Year | Formation | Description |
|------|---|--|
| 1972 | United Nations Conference on Human Environment | Organized by the United Nations and protection of human environment conference inspiration for the development of the people of the world and will lead to a common point of view and on the need for the development of common principles emphasized. In this context, the source the use of intergenerational equity, the relationship between economic and social development and the environment emphasizing the variety of policies were developed. This principles, based on sustainable development struts emphasize. |
| 1977 | International Labour Multinational Organization Enterprises and Social Politics of Principles Concerning Tripartite Declaration | Was revised in March 2000. This international principles contained in this document to the multinational corporations, governments, workers 'and employers' establishments, employment, education, work and such as living conditions and labor relations guiding recommendations include areas. |
| 1987 | The World Commission on Environment and Development (WCED) | This is the work undertaken by the commission As a result of "Our Common Future Report" was released. This report was known then as the Brundtland Report. In this report, sustainable development, common and the well-known and most cited general accepted definition took place. Environment and taken up with development issues global action for sustainable development prepared the ground for the creation of the plan. |
| 1989 | CERES principles | Environmental protection and pollution reduction include ethical principles related |
| 1992 | Earth Summit | With the heads of state and government of 179 countries with official representatives and 35,000 thousands of non-governmental organization representatives on this summit with the participation of five major has been accepted in international documents. This one of the documents, the "Agenda 21", development collaboration and environmental issues at the global level made and the policy can be solved makers of great responsibility falls put. Conference in Stockholm more problem-oriented approach to environmental issues natural resources, which was adopted in Rio based on sustainable economic growth and human adopting the development of resources an integrated approach was chosen. Sustainable The concept of developing a detailed and comprehensive and participatory manner set forth in mechanisms and processes of the United Nations, governments and other organizations and ensured the adoption of institutions. |
| 1992 | United Nations Environment Programme (UNEP) and the Finance Initiative | Revised May 1997. In this paper, the leading global financial services sector signed by the organizations and the environment responsibility and cooperation for the protection of recommends. |
| 1994 | Triple Bottom Line | This concept is the first time in 1994, John Elkington proposed |

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| | | by. Triple the performance or the concept of the triple responsibility of enterprises, financial in addition to the results of environmental and social requires the reporting of results. |
| 1997 | The Kyoto Protocol | Global warming and climate change struggle to provide an international framework. The United Nations Climate Change Within the scope of the Framework Agreement was signed. The aim of the Kyoto Protocol, greenhouse gas density, the climate impact of hazardous levels will do to remain in balance provide. |
| 2000 | OECD International Investments and Multinational Declaration of Business | This document, multinational enterprises, international invest in their country and living in this country responsibilities towards the society that put. |
| 2001 | World Business Council for Sustainable Development | A contribution to the world of enterprises and the effect of they cause as a way of measuring social and environmental costs, including business accounts proposed were to pay. |
| 2002 | World Summit on Sustainable Development | In 1992, in Rio de Janeiro implementation of the decisions taken at the conference evaluation process and the resulting discussion and finding solutions to problems the purpose of this meeting has been fundamental. |
| 2002 | Parliamentary Commissioner for the Environment | The principle developed in 27 of Agenda 21. Free newsletter to make a better economic development businesses and the importance ascribed to a role. |

3. Sustainability Enterprises Guidance: Standard and Principles

There have been many attempts to identify a range of key factors that might be taken as indicators of moves towards/ away from sustainability. One such significant attempt is the World Resources Institute's (WRI) project to derive, develop and apply performance indicators of less unsustainable practices (Gray, 2010).

Relevant standards and guidelines include (www.sustainabilitysa.org):

- The Global Reporting Initiative (GRI). Formed in 1997 in the US by Ceres and the Tellus Institute, the GRI provides a sustainability reporting framework. More than 1300 companies have followed the GRI Framework, and hundreds of others produce sustainability reports using their criteria.
- The United Nations Global Compact (UNGC). The UNGC is a set of ten principles for businesses to follow covering environmental responsibility, human rights and workers rights. The principles are a central reference point for the GRI Guidelines. Companies that sign up for the UNGC must issue a Communication on Progress (COP) each year that informs stakeholders of their progress in implementing the ten principles in their business activities.
- The OECD Guidelines on Multinational Enterprises. First developed in 1976 and revised in 2000, the Guidelines relate to the disclosure of information, employment relations, environmental management, bribery, competition, consumer interests, and science and technology diffusion. Signatory governments commit themselves to establishing National Contact Points, which will investigate complaints relating to the Guidelines.
- The International Organization for Standardization (ISO) is a non-governmental network of national standards institutes of 161 countries that co-ordinates international standards for business and products. The ISO 14000 Series of standards focus on corporate environmental management systems and ISO 26000 covers social responsibility.
- The AA1000 Series developed by AccountAbility, promotes accountability for sustainability through social and ethical accounting, auditing and reporting. It is a global network of business, public and civil institutions. The AA1000 Framework is a series of five standards to assist and strengthen the credibility of organisations' sustainability reporting, and the underlying processes, systems and competencies.

AA1000 APS (AccountAbility Principles Standard) sets out the foundation principles of inclusivity, materiality and responsiveness. AA1000SES (Stakeholder Engagement Standard) gives guidance to organizations on engaging with stakeholders. AA1000AS (Assurance Standard) sets out principles for sustainability assurance. The final draft is now public and available for final comments. Many organizations use the AA standards in conjunction with the GRI Guidelines.

- The Prince's Accounting for Sustainability Project (A4S). Launched by HRH the Prince of Wales, the Accounting for Sustainability Project promotes sustainability and develops tools and guidelines to assist organisations implement sustainability strategies and practices. A4S believes that it is only through the integration of environmental and social factors into business and management reporting that the fundamental connection between strategic direction, financial performance and sustainability impacts will be made clear. A4S has developed two sustainability management tools for organizations and a framework for a sustainability report.

A4S works in collaboration with IFAC (International Federation of Accountants) to promote sustainable organizations.

- The Carbon Disclosure Project (CDP) under the Climate Disclosure Standards Board (CDSB) is an independent non-profit organisation that coordinates an investor relationship between shareholders and corporations relating to climate change. The CDP, started in 2000, has become the global standard for carbon emission disclosure methodology and processes. The CDP website provides the largest repository of corporate greenhouse gas emissions data in the world. The data is obtained by sending out annual questionnaires to the chief executives of over 4 500 of the world's largest companies with questions relating to awareness and management of carbon emissions, climate change, and more recently on water. The latest global report was issued in November 2010. The Carbon Disclosure Leadership Index ranks companies according to the quality of their disclosure. The CDP South Africa report was launched in 2007 by the National Business Initiative (NBI). The report assesses the disclosure quality of the top 100 companies listed on the JSE. The latest report was issued in November 2010.
- SEC Guideline on climate change disclosure. The SEC (Securities and Exchange Commission) in the US issued an Interpretative Guideline to public companies on the Commission's existing disclosure requirements on climate change matters. The effective date is February 8, 2010. The Guidance serves as a reminder to listed companies of their obligations under the existing regulations to consider climate change and its consequences in their disclosures to the Commission and to investors.
- King Reports on Governance were developed in South Africa but have received international acclaim. The three Reports have had an increasing focus on sustainability reporting.
- The Institute of Directors Southern Africa (IoDSA) has a Sustainable Development Forum that researches and disseminates information on developments relating to sustainability issues. It has released two position papers to date.
 - Position Paper 1: Implementing Sustainable Development as a Strategic Business Model (August 2009).
 - Position Paper 2: South African Business & Climate Change (September 2010).

And also industry-specific and issue-specific Guidelines Various industries, for example forestry, chemicals and diamonds, have developed their own self-regulated guidelines for responsible behavior.

4. Sustainability of Businesses Performance Indicators

The final category of measurement represents data produced by agencies specialized in the assessment of Socially Responsible Corporate Behavior, more commonly known as sustainability rating agencies. Among these are the most widely known European and American agencies - those of SAM, EIRIS, KLD, Calvert, Vigeo, BMJ and Innovest. Nowadays, sustainability rating agencies are considered as one of the most relevant signals that provide corporate sustainability information for stakeholders, about social, ethical, environmental impacts of companies, that are often unaware of the full range of firms activities and lack access or the expertise needed to analyze relevant environmental data. Hence, rating agencies may be perceived as a crucial information chain between companies and investors both private and institutional who are also subject to the ethical trend with a strong demand to the Social Responsible Investing (SRI) and who may use sustainability ratings as a signal of a company's reputation for being a sustainable company (Avetisyan, 2010).

There are four factors motivating companies to develop and disclose key performance indicators on sustainability. These are (Deloitte, 2009); (a) stakeholder demands, (b) shareholder expectations, (c) evolving regulations and (4) performance evaluation of sustainability and corporate citizenship efforts.

Measurement at the enterprise level in order to ensure sustainability created in a variety of indicators. Each of these indicators operational, and according to the sector, it still discussed the usefulness of each. Over time, some of these indicators draws attention to the widespread acceptance of it. Important ones are discussed below (Tokgöz & Once, 2009):

- FTSE4Good Index (1995),
- Global Reporting Initiative - GRI (1997),
- Dow Jones Sustainability Index - DJSI (1999),
- Environmental Sustainability Index- ESI (2005).

5. Accounting and Sustainability

Organisations need to account for anything that can affect valuation and/or resource flows. We face significant challenges across all kinds of issues including sustainable wealth creation, climate change and the use of scarce resources such as water and energy. As a result, it is becoming increasingly urgent that accounting

plays an effective role in measuring and communicating the risks, benefits, and therefore value, to the organisation and society associated with non-financial aspects (ACCA, 2005).

The development of social and environmental accounting and reporting over the last 40 years or so has resulted in a wide range of actual and potential accounts of organisational interactions with society and the natural environment. For all their strengths and weaknesses such accounts can be understood as narratives of local events articulating the relationships of the organisation with its “stakeholders” and/or its immediate substantive environment. When, sometime during the 1990s, we began to see organisations speak about “accounts of sustainability”, this linguistic turn, deliberately or not, drew our attention to a global scale (Gray, 2010). Sustainability accounting, as a concept, has emerged from developments in accounting over a period of years. First, it needs to be recognised that accounting has long been presented in a conventional way for use by management and external parties (Schaltegger & Burritt, 2010).

Accounting for sustainability issues is at various stages of development and can take various forms, such as (ACCA, 2008; 2005):

- Environmental management accounting, which is used to identify costs (and revenues) that are driven by clearly identifiable environment-related factors and Environmental accounting techniques involve identifying, analysing, managing and reducing costs associated with raw materials, utilities, services and waste, with the aim of saving money and reducing negative environmental impacts.
- Sustainability (or ‘full cost’) accounting, which is used to place objective prices on externalities caused by the impacts of organisational processes or outputs and full cost accounting seeks to identify, quantify and internally allocate all costs associated with an organisation’s activities, operations, products and/or services, including environmental, social and other external costs.
- Social accounting, which is used to describe an organisation’s understanding and response to its relationships with its stakeholders. This will include a wide variety of issues, including the supply chain, employee welfare, customer protection and intangible benefits (or costs). It often also covers environmental impacts. Although there are numerous approaches to social auditing, one common feature is the concern to address the material sustainability issues and information needs of both the entity and its stakeholders through dialogue and engagement.

Sustainability accounting and reporting can be defined “as a subset of accounting and reporting that deals with activities, methods and systems to record, analyse and report, firstly, environmentally and socially induced financial impacts and secondly, ecological and social impacts of a defined economic system. Thirdly, sustainability accounting and reporting deals with the measurement, analysis and communication of interactions and links between social, environmental and economic issues constituting the three dimensions of sustainability” (Jasch & Stasiškienė, 2005). The first publications linking accounting with sustainability focused on the deficiencies of conventional accounting, as well as the limits of the underlying philosophy of accounting, which conventionally focuses on monetary, quantitative measures of corporate economic activities (Schaltegger & Burritt, 2010). Gray is attributed with much of the conceptual development of sustainability accounting. Gray (1993) identifies three different methods of sustainability accounting (Lamberton, 2005):

1. Sustainable cost is the hypothetical cost of restoring the earth to the state it was in prior to an organisation’s impact; that is the amount of money an organisation would have to spend at an end of an accounting period in order to place the biosphere back into the position it was at the start of the accounting period.
2. Natural capital inventory accounting involves the recording of stocks of natural capital over time, with changes in stock levels used as an indicator of the (declining) quality of the natural environment. Various types of natural capital stocks are distinguished enabling the recording, monitoring and reporting of depletions or enhancements within distinct categories. Gray suggests four categories of natural capital:
 1. Critical, for example, the ozone layer, tropical hardwood, biodiversity.
 2. Non-renewable/non-substitutable, for example, oil, petroleum and mineral products.
 3. Non-renewable/substitutable, for example, waste disposal, energy usage.
 4. Renewable, for example, plantation timber, fisheries.
3. Input–output analysis accounts for the physical flow of materials and energy inputs and product and waste outputs in physical units. It aims to measure all materials inputs into the process, and outputs of finished goods, emissions, recycled materials and waste for disposal.

Also Elkington (1999) describes a form of sustainability accounting referred to as triple bottom line (TBL), which aims to report on an organisation's economic, social and environmental impacts. Underpinning TBL accounting is the evolving three dimensional definition of sustainable development. Some versions of TBL attempt to use monetary units to measure economic, social and environmental performance, whereas others versions such as that used in the GRI Sustainability Accounting Guidelines utilise a wide array of indicators to measure performance toward the goal of sustainability. The use of indicators to estimate variables that cannot be measured precisely has a long history of use in environmental science, and is considered appropriate where variables that are inherently complex cannot be directly observed. The latest version of the GRI Sustainability Accounting Guidelines, released at the World Summit on Sustainable Development (WSSD) in Johannesburg in August 2002, provide a rigorous framework for the application of TBL reporting (Lamberton, 2005).

Lehman suggests that "accounting is a practice which moves in a space of reason" and in its "attempts to create social change through rational assumptions perpetuates a strategy that remains caught within the confines of the present". Thus, asks Lehman, "how does accounting and accounting research contribute to the derivation of good decisions?" – or the avoidance of bad decisions?. Counsel such as this might suggest that any attempt to offer some alternative account – a challenging narrative – would be doomed to, in all probability, create more harm than good. To the extent that such accounts are legitimating or reinforcing of the very things/activities that caused the concern in the first place then the counsel may well be sound (Gray, 2010). Accountants need to develop accounting systems that "prevent premature closure" and "which infuse debate and dialogue, facilitating genuine and informed citizen participation in decision-making processes". In doing so, they might also help make power relations more transparent (Brown, 2009).

Financial accounting provides the foundation for information gathered within organisations and prepared for presentation to external stakeholders through disclosure in external reports. A second type of accounting, cost accounting, provided information about inventory asset values, for inclusion in the annual financial reports. The significance of these developments in accounting is that sustainability accounting could be developed in different ways: first, based on an entirely new system of accounting designed to promote a strategy of sustainability; and, second, as an extension of, or modification to, conventional financial, cost, or management accounting (Schaltegger & Burritt, 2010). Sustainability management accounting is a tool that assists organisations in becoming more sustainable by highlighting costs, risks and benefits. It extends traditional financial and cost accounting to take account of sustainability impacts at the organisational level (Jasch & Stasiškienė, 2005).

6. The Expected Benefits of Sustainability

Sustainable development note that enterprises engaged in business in line with the benefits to be obtained by attracts. Six main categories of these benefits be evaluated under (Tokgöz & Once, 2009):

- Cost Savings; cost-saving benefits;
 - Production costs,
 - Labor costs,
 - Occupational health and safety-related cost savings can be achieved by providing.
- Capital Sources Contact; businesses through the implementation of more sustainable development strategy become less risky, lower interest rates than their debt with interest rates or lower rates to help the insurance can.
- Having These Standards in Sectoral Determination; businesses that perform the best practices of its competitors the creation of standards and regulations change have the opportunity to have a direction-making power.
- Enhancing Corporate Reputation; their commitment to sustainable development of enterprises, corporate environment in which they operate can improve their reputation and assets sustaining the social approval of the resume, but also attracting qualified labor force can help business.
- Market Advantage; the orientation to the integrated supply chain management, business help establish a more qualified and comprehensive relationships with their customers with customers rather than just sell products, while a unit value-added services provided by them as a unit be contributing.
- Ethics, Values, Responsive to Attract Investors; sensitive to the ethical and social responsibilities as a rapid movement of investment growing. Investment decisions of enterprises approved social and environmental performance, taking into consideration the investor the presence of group of companies to take into account the investor group reveals the need.

Conclusion

Sustainability for companies emphasizes social, economic and ecological responsibilities of corporate beside of the financial responsibility. Advocates of sustainability implicitly claim that corporate cannot be managed by traditional business models. Sustainability is an alternative approach to traditional growth and profit maximization model. Research linking accounting to the emerging concept of sustainability surfaced in the early 1990's and has received continuing attention in academic and professional accounting literature. In addition to explorations of what sustainability may mean for accounting and finance, we have experienced a growth in both critiques of sustainability reporting and in experiments and speculations on how accounting for sustainability might advance. This growth has very properly attracted critique. The development of social and environmental accounting and reporting over the last 40 years or so has resulted in a wide range of actual and potential accounts of organisational interactions with society and the natural environment. For all their strengths and weaknesses such accounts can be understood as narratives of local events articulating the relationships of the organisation with its "stakeholders" and/or its immediate substantive environment. When, sometime during the 1990s, we began to see organisations speak about "accounts of sustainability", this linguistic turn, deliberately or not, drew our attention to a global scale (Gray, 2010). Sustainability accounting, as a concept, has emerged from developments in accounting over a period of years. First, it needs to be recognised that accounting has long been presented in a conventional way for use by management and external parties (Schaltegger & Burritt, 2010).

Referances

- [1]. ACCA, 2005. Accounting Sustainability Briefing Paper 5.
- [2]. ACCA, 2008. Going Concern? A Sustainability Agenda for Action.
- [3]. Avetisyan, E., 2010. Emergence and Evolution of Sustainability Rating Agencies: An Institutional Approach Philosophical and Methodological Implications, 19th EDAMBA Summer Academy, Soreze, France, pp.1-9.
- [4]. Brown, J., 2009. Democracy, Sustainability and Dialogic Accounting Technologies: Taking Pluralism Seriously, *Critical Perspectives on Accounting* 20 (2009), pp. 313–342.
- [5]. Deloitte, 2009. CFO Insights: Sustainability: Developing Key Performance Indicators
- [6]. Measuring Sustainability is the Bottom Line.
- [7]. Figueroa, B., OrihuelaR., CalfucuraT., 2010. Green Accounting and Sustainability of the Peruvian Metal Mining Sector, *Resources Policy* 35, pp. 156-167.
- [8]. Giannetti, B.F., Almeida, C.M., Bonilla, S.H., 2010. Comparing energy accounting with well-known sustainability metrics: The case of Southern Cone Common Market, *Mercosur, Energy Policy* 38 (2010), pp. 3518–3526
- [9]. Gladwin, T., Kennelly, J., Krause, T., 1995. Shifting Paradigms for Sustainable Development: Implications for Management Theory and Research, *The Academy of Management Review*, Vol. 20, No. 4 (Oct., 1995), pp. 874-907.
- [10]. Gould, S., 2011. Accounting for Sustainability, *Accountancy Plus*. Issue 01, pp. 19-20.
- [11]. Gray, R., 2010. Is Accounting for Sustainability Actually Accounting for Sustainability and How Would We Know? An Exploration of Narratives of Organisations and the Planet, *Accounting, Organizations and Society* 35 (2010), pp. 47–62.
- [12]. Hazelton, J., and Haigh, M., 2010. Incorporating Sustainability into Accounting Curricula: Lessons Learnt From an Action Research Study, *Accounting Education: An International Journal*, Vol. 19, Nos. 1–2, pp. 159–178.
- [13]. Jasch, C., and Stasiškienė, Z., 2005. From Environmental Management Accounting to Sustainability Management Accounting, *Environmental research, engineering and management*, 2005.No.4(34), pp.77-88
- [14]. IFAC, 2011. Sustainability Framework 2.0: Professional Accountants as Integrators.
- [15]. Kelly, M., and Alam, M., 2009. Educating Accounting Students in the Age of Sustainability, *The Australasian Accounting Business & Finance Journal*, Kelly & Alam: Educating Accounting Students in the Age of Sustainability. Vol.3, No.4, 2009, pp.30-44.
- [16]. Lamberton, G., 2005. Sustainability Accounting—A Brief History and Conceptual Framework, *Accounting Forum* 29 (2005), pp. 7–26.
- [17]. Samsun, N., 2005. Hesap Verebilirlik ve İyi Yönetişim, www.deu.edu.tr/userweb/hilmi.coban/hesap%20verebilirlik.pdf.
- [18]. Scerri, A., and James, P., 2008. Accounting for Sustainability: Combining Qualitative and
- [19]. Quantitative Research in Developing 'Indicators' of Sustainability, *International Journal of Social Research Methodology*, Vol. 13, No. 1, February 2010, pp. 41–53
- [20]. Schaltegger, S., and Burritt, R., 2010. Sustainability Accounting for Companies: Catchphrase or Decision Support for Business Leaders?, *Journal of World Business* 45 (2010), pp. 375–384.
- [21]. Shrivastava, P., 1995. Ecocentric Management for a Risk Society, *The Academy of Management Review*, Vol. 20, No. 1 (Jan., 1995), pp. 118-137.
- [22]. Tokgöz, N, and Once, S., 2009. Şirket Sürdürülebilirliği: Geleneksel Yönetim Anlayışına Alternatif, *Afyon Kocatepe Üniversitesi, İ.İ.B.F. Dergisi (C.X I,S I)*, pp.249-275.
- [23]. Walsh, C.J., Arch, B., 1999-2002. Construction Related Sustainability Performance Indicators, *Sustainable Design International Ltd.*
- [24]. Wilson, M., 2003. The Influence of Sustainability Performance Management Practices on Organisational Performance, *CPA Bill Burkitt Research Grant*, pp. 1-28.
- [25]. United Nations World Commission on Environment and Development (WCED), 1987. Brundtland Report: Our Common Future.
- [26]. <http://www.sustainabilitysa.org/SustainabilityReporting.aspx>, Standards for sustainability reporting

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