ENVIRONMENTAL PROTECTION AND SUSTAINABILITY REPORTING: EXTENSIBLE BUSINESS REPORTING LANGUAGE (XBRL) INTERACTIVE DATA TO THE RESCUE

Faboyede, Olusola Samuel
Department Of Accounting, College Of Development Studies,
Covenant University, Canaanland, Ota, Ogun State, Nigeria.

Abstract

A company's environmental performance is important to the financial markets because improved environmental performance generally leads to higher, more sustainable, financial values. Challenges that arise in environmental financial accounting border on proper accountability of environmental costs and liabilities, meaningful disclosure of enterprise environmental performance, and development/usage of appropriate management accounting procedures (e.g. costing out pollution controls; comparing alternative materials that can be used in manufacturing; and investigating recycling alternatives). The need for standardized environmental performance indicators (EPIs) which link financial and environmental performance in order to support the quality of decision making of stakeholders cannot be overemphasized. In spite of the existence or underway development of a number of guidelines for measuring and disclosing environmental performance, many environmental indicators are of a limited benefit due to the lack of standardization of environmental information. Most information today moves in a digital format and people often go to the internet for information. Sustainability information, however, has largely remained in print, but report preparers and users have much to gain by moving environmental and social performance information into the wider digital flow of information. This paper therefore, while showcasing the importance of and need for environmental accounting and reporting, provides a recipe underscored by information standardization through the engagement of the twenty-first century corporate reporting language known as eXtensible Business Reporting Language (XBRL). XBRL enables an electronic "tag" on numbers or other qualitative information in the report so that computers can recognize the information, select it, analyze it, store it, exchange it with other computers and present it automatically in different ways. It concludes that the assurance about a company's financial projections and nonfinancial information (customer satisfaction, employee retention, or environmental reporting) and the integrity of the information itself through XBRL would enhance the effectiveness and efficiency of resource allocation, increase income and welfare, as well as achieve the objective of an environmentally sound management which encompasses increasing eco-efficiency, reducing environmental impact, and increasing company value added. It thus recommends that Nigeria and the developing countries should embrace the XBRL technology as they cannot afford to be left behind by the fast spreading current worldwide future reporting standard.

Introduction

In the latest years, attention to the environmental behaviour of the company is paid by many interested parties such as state institutions, the public and business partners. This is because the adverse impacts of the company activities, products and services on the environment may significantly endanger its existence, prosperity, and may even result in its liquidation. Attention paid to

technical, safety and environmental requirements by management is "rewarding"for the company while a sound approach to the environment may represent a significant competitive advantage for the business. The protection of the environment represents a highly relevant topic because negative environmental impacts are connected with the activity of each entity i.e. company activities, products and services cause changes of the environment, natural resources are consumed, and waste flows are released into the environment. Also, greater accent is put on sustainable use of resources, waste management, and enforcement of the "polluter-must-pay"principle, within the framework of international activities and national environmental policy. (Hyrslova and Hajek, 2006).

It is essential that an information system must always be in accordance with information needs of its users. This means that collection, recording, analysis, as well as reporting of information must, in the best possible way, fill the information needs of the most important interested parties. The information system must be capable of providing information to relevant users in the form enabling them to make decision. Thus, the attributes of such an information system must include the enablement to: have quick access to necessary information (without time delay); have possibility to examine company data in integrated form, as well as in detailed form; have possibility to analyze the established data; easily detect trends of planned or managed processes; and have possibility to continuously communicate and discuss the established facts.

Where the aims of an organization include a sound approach to the environment and improvements of economic performance, it is imperative that the management and other interested parties must have at their disposal information concerning the environmental aspects and impacts of the company activities, products and services on the environment, as well as their economic consequences. This paper showcases environmental accounting as a system that provides the aforementioned information, protects the environment and enhances sustainability reporting. It recognizes the challenges that arise in environmental financial reporting and explores the solutions provided by eXtensible Business Reporting Language (XBRL), a twenty-first century language that is revolutionizing financial reporting worldwide.

The Role of Environmental Accounting in Environmental Protection and Sustainability Reporting

Environmental accounting and reporting are of increasing importance for businesses. Environmental accounting deals with recognizing and disclosing a company's environmental costs and liabilities in financial reports (Wikimedia Foundation, Inc., 2010). Environmental financial accounting deals with accounting for and reporting on environmental transactions and events that affect, or are likely to affect, the financial position of an enterprise (United Nations Conference on Trade and Development, 2002). The many reasons why environmental issues should be integrated into corporate accounting include: (i) Enterprise accounts ought to reflect firms' attitudes towards the environment and the impact of environmental expenditures, risks and liabilities upon the financial position of an enterprise (ii) Investors need information on environmental performance and expenditures to make investment decisions (iii) Given the fact that environmental issues are management issues, managers need to identify and allocate environmental costs to ensure that products are correctly priced and investment decisions are based on true costs and benefits (iv) Enterprises may be able to exploit a competitive advantage with customers if they are able to show that goods and services are

environmentally preferable (v) Environmental accounting is a key to sustainable development and environmental protection (vi) It is agreed by most corporate leaders that a main objective for the economy is sustainable development and sustainability requires companies to strive for eco-efficiency. But companies can only measure sustainability by producing accurate information on both environmental costs and revenues and environmental performance.

Sustainability contributes to higher revenues, lower costs, improved investor relations and increased shareholder value. It refers to the concept of meeting the needs of the present generation while not compromising the ability of future generations to meet their own needs. Achievement of sustainable development includes consideration of environmental, social and ethical issues. Sustainability reporting is about the acknowledgement of the three elements of triple bottom line performance namely economic, social, and environmental as well as integrating these three issues within the broader context of sustainable development (United Nations, 2002a). Information about a company's potential

future environmental liability can be used to: encourage defensive and prudent operations and waste reduction; improve manufacturing, waste disposal and shipping practices; negotiate and settle disputes with insurance carriers; influence regulators and public policy makers; determine suitable levels of financial resources; reassess corporate strategy and management practices (think green); articulate a comprehensive risk management program; improve public citizenship; and assess hidden risks in takeovers and acquisitions.

Environmental reporting describes the disclosure by an entity of environmentally related data, verified (audited) or not, regarding environmental risks, environmental impacts, policies, strategies, targets, costs, liabilities, or environmental performance to people who have an interest in such information via either the annual report and accounts package, a stand-alone corporate environmental performance report, a site-centered environmental statement, and some other medium (e.g. internet site, staff newsletter, video, and CD Rom) (United Nations, 2002c).

The Challenges of Environmental Accounting and Sustainable Reporting

Today, most information moves in a digital format and people often go to the internet for information. Sustainability information has however largely remained in print, even though report preparers and users have much to gain by moving environmental and social performance information into the wider digital flow of information.

There is no environmental-specific Generally Accepted Accounting Principles (GAAP) that has been issued yet. Accountants rely on existing GAAP (e.g. Financial Accounting Standards Board issue number 5) to account for environmental issues. Consequently, there is an increasing need for

accountants to be familiar with the substance of and potential financial treatment of environmental liabilities and costs. Currently, the major financial accounting issue in environmental accounting is estimating and recording environmental liabilities in the financial statements (Coate, Fray, and Sakuvich, 2005). Eco-efficiency which is the delivery of competitively priced goods and services that satisfy human needs and improves life quality, while progressively reducing ecological impacts and resource intensity throughout the life cycle, faces the challenge that there are no agreed rules or standards for calculating ecological items either within same industry or across industries so that indicators can

be used together with enterprise's financial performance indicators (United Nations, 2002d).

effects of sustainability on shareholder value, an inability to document effects of sustainability actions on financial performance and a lack of standard decision making tools and frameworks that relate to environmental improvements (Leahy, 2008). Some guidelines for measuring and disclosing environmental performance exist while some others are under development. However, due to lack of standardization of environmental information, many environmental indicators are still yet of limited benefit. Reasons accountable for this include: (i) lack of agreement on which indicators to use. Even within the same company, indicators and information disclosed can change from one year to the other (ii) absence of agreed method on how these indicators are to be constructed (iii) estimation of the relevant environmental and financial indicators is not always based on the same group of companies and financial indicators are not always based on the same group of companies and/or products. The consequence is that indicators vary from year to year and may or may not include same subsidiaries, branches, or products and data comparison becomes impossible.

XBRL as the Way Out

The modern day world information moves mostly in a digital format. When searching for information on organizations or products, people often go to the internet. Companies use extensive Enterprise Resource Planning (ERP) systems to manage information across units and across countries. Researchers and analysts typically have services that provide packages of reports and data sets and other information via terminals while consumers are even turning to web-enabled devices for information.

Key reasons given for the low level of integration of sustainability issues into the finance function included the difficulty most executives felt at measuring the

Basic research and discussions have revealed that it is possible to design a standardization process and that many stakeholders are in favour of it. If Environmental Performance Indicators (EPIs) were standardized, the value of information to users could be increased. Standardization of EPIs requires standardized financial data (which exist) and standardized ecological data (United Nations, 2002d) The XBRL however offers the opportunity of twenty-first century Standardized Business Reporting (SBR).

There is also the information technology challenge as represented by very low website or internet presence of listed companies in Nigeria. Salawu (2009) reveals that while about 54.1% of Nigerian listed companies on the stock exchange have website, only about 20.5% of the companies listed reported their financial information while 79.5% of the companies did not report financial information. The implication is that there is a serious limitation on extent of financial and environmental reporting disseminated by these companies.

Sustainability information, however, has largely remained in print, even though report preparers and users have much to be gained by moving environmental and social performance information into the wider digital flow of information. This digital flow movement has already started with increasing use of web-based reporting. However, there is even more potential to be unlocked by enabling people to put their specific information into a widely-accepted format that can also give readers more flexible access to the contents of reports.

Introducing XBRL

XBRL is an innovation in business reporting. There is a movement towards interactive reporting and data has already begun in the financial sector and is currently focused around the buildup of XBRL. XBRL stands for eXtensible Business Reporting Language and was originally developed for transmitting financial information. It is a standards-based way to communicate business and financial information. These communications are defined by metadata set out in taxonomies. Taxonomies capture the definition of individual reporting concepts as well as the relationships between concepts and other semantic meaning (Hoffman, 2008a). It was developed by the American Institute of Certified Public Accountants' (AICPA) High Tech Task Force in late 1999, early 2000 on the heels of the development of eXtensible Markup Language (XML) in the late 1990s. It is an open standard, free of license fees which can handle data in different languages and accounting standards. It can flexibly be adapted to meet different requirements and uses (Zegarowski, 2008). It was created to enable a uniform global coding standard to be adopted worldwide. It offers a way to put an electronic "tag" on numbers or other qualitative information in the report. That way, computers can recognize the information, select it, analyze it, store it, exchange it with other computers and present it automatically in different ways.

XBRL provides an XML-based framework that the global business information supply chain can use to create, exchange, and analyze financial reporting information which includes but not limited to, regulatory filings such as annual and quarterly financial statements, general ledger information, and audit schedules. The development of XML in the late 1990s was in response to the shortcomings of Hypertext Markup Language (HTML) that enabled the ability to display information on the internet while users cannot manipulate or interpret web site content. In contrast, XML uses generalized codes to tag data overcoming this issue.

The Extensible Business Reporting Language (XBRL) as an open standard supports information modeling and the semantic expression of commonly required terms used in business reporting. It uses the XML syntax and related XML technologies such as XML Schema, XLink, XPath, Namespaces, etc., to articulate the semantic meaning in the form of information modeling. As a result, it is a formal language that can be used to express the semantic constraints that information must comply with in order to be valid. In addition, XBRL gives the business world something that can be agreed on. Before the advent of XBRL, there were many people expressing semantic meaning about financial information, but in proprietary ways. With the arrival of XBRL, there can now be global agreement on the way to do this, and this agreement on financial terms can be leveraged in the exchange of information. Thus, the current world movement towards one set of financial reporting standards International Financial Reporting Standards (IFRS) is empowered (Hoffman, 2008b).

XBRL is also an important tool for more efficient, effective and accelerated internal reporting. It is a powerful internal use tool which meets needs from transaction to summaries (Cohen, 2005). Any hardware or software that is XBRL enabled allows information to be easily displayed and importantly, manipulated by commonly used software packages such as Microsoft Office. By tagging each piece of financial data at its source to a firm's chart of accounts as well as to international financial standards, the information can be electronically passed between different software systems without qualification. XBRL also create opportunities for firms, governments and

nations to leverage knowledge gained from synchronized, 'real-time' or 'interactive' data in creating greater transparency, increased cost efficiencies, productivity gains, economic growth and thus wealth creation. Further, it overcomes the challenge of disparate business reporting taxonomies which have contributed to inefficiencies and an increased reporting burden for worldwide businesses.

XBRL makes things better, faster, and cheaper. Currently, financial reports are commonly made available on paper, or in the form of an HTML page, or a PDF page. What each of these formats has in common is that the information within the report cannot be reused by those desiring to use information, unless the information is re-keyed into whatever downstream application is used, such as a spreadsheet model, analysis system, business intelligence system, or another system.

The main benefits of using the XBRL include: (1) Greater reliability and consistency of information (2) Faster data collection, aggregation, sorting analysis for in-house purposes (3) Enhanced ability to customize reporting

to meet the specific needs of information seekers such as investors and analysts; and (4) Compatibility with financial reporting systems and requirements (e.g. SEC, IFRS, Basel II). Other benefits of participating early may include: being perceived as a progressive, well-run, "tech savvy" company; providing opportunities for to learn new skills that will be of increasing value in the future, contributing to the "team spirit" of being part of something new, rather than working with technologies that have been superseded; improving Information Technology department skills, working with less expensive open standards rather than expensive proprietary solutions; lowering the cost of financial reporting before competitors do; and providing the opportunity for improvement of internal reporting for both financial and non-financial information.

In practice, report preparers would use an existing taxonomy to place XBRL tags on specific contents of their report. These tags could be placed in a web page, a PDF file, or any of several other standard file formats. XBRL is propelling the digital automation of reporting between enterprises, government and regulatory bodies.

Implications for Environmental Protection and Sustainability Reporting

If, for example, a user wanted to focus specifically on greenhouse gas (GHG) emissions, XBRL would enable a user to immediately find the "GHG emissions" information in the document, extract it, and present it as raw data, analyze it based on the user's predefined interest (e.g. amount of GHG emissions per product). The user could apply this to multiple reports to compare emissions information across different reports.

The debate of convergence between the United States' Generally Accepted Accounting Principles and International Accounting Standards (IASs) comes to an end as it is now easier to report and reconcile under different accounting

standards. With XBRL, assurance about nonfinancial or nonquantitative information becomes as important and prevalent as about financial information. Continuous monitoring and audit trail systems are made possible. It also enables Governments to become more accountable for their performance when public sector reporting becomes more efficient and transparent. This results in a decrease in bureaucracy, mismanagement, and fraud (Coffin, 2001).

XBRL affords standardized, digital reporting taxonomy that will reduce future reporting burden for firms and enable aggregation of social and environmental sustainability data at an inter-organizational level. By doing so,

Government, regulatory bodies and businesses will be better positioned to make decisions that consider critical issues affecting both nation and communities such as climate change and environmental degradation hence driving more sustainable approaches to business enterprise (Gilbert and Schmidt, 2009).

There is need for greater transparency and accuracy in business reporting and the people of the world cannot afford to consume the world's resources while ignoring the effect this has on the environment and the social fabric of nations. The need for greater transparency has become even more critical as a result of the current global financial crisis. Sustainability addresses the needs of present generations without compromising the ability of future generations to meet their needs; it affects the business context and markets via environmental, social and economic challenges.

Sustainability has strategic impacts on business in aspects of production economies, cost competitiveness, investment decisions and asset valuation. Macro level multilateral doctrines such as the Brundtland Commission Report (1987) emphasize the need to integrate environment with decision-making processes in firms at a strategic level. The role of XBRL is very important because, without the development of systems that systematically and cost-effectively collect uniform and comparable information from various organizations, any realistic quest towards sustainable development will be thwarted.

The adoption of Standardized Business Reporting (SBR) driven by XBRL has major implications for aggregating standardized, digitized information from different organizations in respect of their impacts upon the environment, and their strategies to reduce impacts. At the present time, the information collected and reported by many organizations in Nigeria about various aspects of their environmental performance is not used to provide an aggregated account of organizations' impacts, or initiatives, in particular regions. The diversity of reports produced and the fact that the reports produced are print based, constrains any realistic attempt to formulate an informed understanding of the impacts firms have in regard to environmental and social issues and thus any strategic approach to addressing the concerns. For Nigeria and developing nations to address various environmental threats, standardized or aggregated data is required.

Encouraging organizations to adopt uniform XBRL taxonomies provides an important means to understand regional impacts and efforts – something necessary for an informed understanding of where the Nigerian and developing nations' environments are heading, what business enterprises are doing, and in determining what further actions or regulations must be introduced. XBRL, when properly developed, provides exciting opportunities for addressing environmental and social issues within the National and international contexts.

Given the background of the desire to link financial and environmental performance through the eco-efficiency concept, there is need to first select the environmental components of the eco-efficient indicators. Although, generic indicators are not necessarily more important than industry or sector-specific indicators, they have wider applicability. Generic indicators can be applied worldwide, by all enterprises, and across all sectors. Generic indicators should be seen in conjunction with industry-specific EPIs which take the diversity of specific sectors into account and every sector ought to attempt the construction of both generic and specific EPIs. Standardized generic EPIs fulfill the criteria of (i) addressing worldwide environmental problems (ii) linking an environmental problem that is relevant for all industries at the macro level to enterprise activities at the micro

level (e.g. global warming to use of energy) and have a direct impact on both the environmental and financial performance. XBRL affords the development of environmental indicators that are of worldwide concern, related directly to company's production processes, products or services and have a positive or negative impact on free cash flows of the enterprise. Global

Reporting Initiative (GRI) has recently announced that it has issued a beta version XBRL taxonomy for reporting in accordance with GRI guidelines. Numerous organizations around the world have issued reports using GRI guidelines covering economic, environmental, and social performance indicators.

Global adoption of XBRL

XBRL is being developed by an international non-profit consortium of approximately 450 major companies, organizations and government agencies worldwide (Zegarowski, 2008). In May, 2008 the US Securities and Exchange Commission (SEC), following an investment of over US$54 million to XBRL-enable the US financial statement taxonomy, decreed a phased mandatory

implementation beginning with companies turning over more than $5bn annually for financial periods starting on or after 15 December, 2008 and extending in successive years to other US and international filers. Consequently, companies reporting under International Financial Reporting Standards (IFRS) will also have to submit their quarterly and annual results to the SEC via XBRL.

Findings

There is an inevitable path globally towards the adoption of SBR using XBRL in order to improve financial reporting. This is not yet the case when it comes to social and environmental sustainability reporting. According to the Global Reporting Initiative (GRI) (GRI, n.d.), which is a multi-stakeholder global alliance that has been responsible for developing the world's most authoritative sustainability reporting guidelines, much of the reporting is still print-based and specific to the particular reporting entity; hence there is an immediate need for research which will seek to explore and develop a new frontier of Sustainability Reporting that embraces and fully utilizes a digitized system of reporting allowing information from individual reporting entities to be aggregated at regional and national levels.

An enterprise which, not only recognizes and responds to its statutory environmental responsibilities, but also determines to be at the leading edge in terms of utilizing environmentally friendly technologies or moving towards a more

sustainable mode of operations would reap other benefits such as: increased staff/employee commitment; lower/eliminated 'green' taxes, levies and fines; lower operating costs and waste disposal costs; improved corporate profile; and increased market opportunities (United Nations, 2002b).

XBRL is a 'groundbreaking' technology and a sleeping giant that is expected to become the global standard for on-line standard business reporting (SBR). The essence of XBRL is that it is the digital language of business (Willis, n.d.) that has the potential to fundamentally revolutionize the way in which business reporting is undertaken and in the process disrupt the delicate balance characterizing the present business reporting paradigm. It will also create opportunities for firms, governments and nations as it enables a uniform global coding standard to be adopted worldwide. Government and private sector initiatives can focus on the SBR for the purpose of cost efficiencies, transparency, and accountability in regulatory environments, enterprise and national levels. XBRL enabled SBR has

the potential to revolutionize how business is undertaken, driving developed economies further down the knowledge economy global freeway.

At the moment in Nigeria and the developing countries, relevant firm generated information is not standardized, disparate and quite dispersed and does not link in any way, nor is it captured in any form of central repository. Data is also collected individually by various state based Environmental Planning Agencies or equivalents, through the National, Local Councils, State Governments, Federal Government, and so forth. The dispersed and unlinked data sources mean that there is inability to understand aggregated impacts on the environment at various regional, state, or national levels.

The implementation of XBRL will not happen overnight. The proper tagging of business information is not a one-step, "press the button", exercise. Selecting the "right" tag for business data requires professional knowledge and judgment. As companies prepare to launch into their initial XBRL-based communications, proper planning and internal communication will be essential.

Conclusion and Recommendations

The connection between environmental effects and financial results is of concern to the enterprise: what impact on the environment, what control of the impact by the enterprise, and what financial consequences to the enterprise. Making this connection is the challenge to enterprise and the accounting profession, and to the broad audience whose interest is environmental protection. Sustainable development and environmental reporting increases the recognition of the 'triple bottom line' which incorporates economic performance, environmental performance, and social/ethical performance.

Sustainability and climate change are key issues confronting Nigeria and the global environment. If the various environmental problems are to be tackled, then there is need to access meaningful data through a global and digital medium such as XBRL. The implication of this is that organizations will be able to adopt a uniform approach that can then be aggregated in real time overcoming any information lag issues which will enable better strategic responses to the long term impacts of business upon the environment, leading to more sustainable approaches to business enterprise. In other words, XBRL will make possible a reporting future whereby: Companies release a standard set of environmental and financial information prepared according to generally-accepted reporting standards that meets many of the basic information needs of investors; Companies apply a common digital protocol for labeling and communicating this standard information; Researchers can directly access and import a company's sustainability data into their systems for analysis; and Companies can be confident that their publicly disclosed information quickly and easily reaches investors.

This paper has endevoured to bring to limelight, the XBRL which is a global standard that is now gaining acceptance and Nigeria as well as the developing world must be aware that XBRL will soon become the international digital language of business. Its adoption is not a matter of if, but when. It has posited that the XBRL offers a way-out opportunity to the challenges of environmental and sustainability reporting in the twenty-first century as a result of its Standardized Business Reporting (SBR) features.

Since it is imperative that new and innovative approaches to sustainable business practices based on knowledge and technology are developed so that enterprises, small, medium and large

and indeed governments can make decisions that will define how their operations, products, services and activities impact upon the environment and society at large, the following recommendations are hereby suggested:

(i) Private and public sector stakeholders in Nigeria and the developing world should embrace the use of the XBRL as it is an inevitable path globally towards the adoption of Standard Business Reporting (SBR) in order to improve, not only financial reporting, but also social and environmental sustainability reporting.

(ii) Accounting regulatory bodies like Institute of Chartered Accountants of Nigeria (ICAN) and the Nigerian Accounting Standards Board (NASB) should introduce accounting and reporting standards that will take care of environmental/sustainability information dissemination through the internet and the XBRL.

(iii) Environmental and sustainability reporting stakeholders should come together to fashion industry suitable environmental-specific reporting standards which will engage the adoption of XBRL and its improved taxonomies in development and implementation.

(iv) Selecting the "right" tag for business data requires professional knowledge and judgment. As companies prepare to launch into their initial XBRL-based communications, proper planning and internal communication will be essential.

(v) Proactive Nigerian organizations looking to gain competitive advantage should set rolling the process of leveraging their efforts in pilot XBRL projects inside their organizations. Particularly, those who are: academics, researchers, auditors/accountants, regulators (SEC, NASB, etc), preparers of financial information, accounting professionals (KPMG), analysts, software developers (Microsoft, PeopleSoft, SAP, Hyperion), professional services providers, intermediaries (Reuters), investors / creditors, and non-governmental organizations, should all get involved.

(vi) There is need for awareness and training conferences/workshops on XBRL to be hosted by professional bodies, environmental institutes, government organizations, academic institutions, and business groups/organizations. These would be designed to help company leaders and academics understand this new communication standard and transit interested parties (e.g. companies/students) to the new financial reporting mandates. Conferences/workshops are a great way to ensure success on that journey.

(vii) The government, regulatory agencies, environmental experts and public policy decision makers in developing nations need to commence project initiatives that will enable them to readily check that disclosures and filings (financial, nonfinancial, and sustainability information) are accurate and not misleading. The establishment of electronic government mechanisms for easy access to corporate social responsibility information is made possible through the more appropriate xbrl format. Advisory committees that will pave the way for requiring companies to turn their environmental financial statements into more easily searchable, comparable, and interactive documents must be constituted. For example, all publicly traded companies could be required to file audited XBRL financial statements in three to five years. In the near term, the largest companies could be required to use the extensible business reporting language to tag their environmental data and share that information with the regulatory bodies without an external auditor's review.

(viii) Universities and other educational institutions should start training current accounting and information systems students to prepare them for jobs that will involve XBRL implementation and use. The XBRL concept, projects, and education should form a strong part of the curricula in schools at tertiary and secondary levels.

(ix) Organizations will need to form XBRL implementation teams to consider modality issues such as: How should XBRL return on investment be

determined? What are the relevant costs? How can the long term benefits be quantified? What is the proper conversion process? Should the current financial reporting system run parallel to the XBRL system? Should the implementation work or the reporting system be outsourced to consultancies? What role should be played in the conversion to a mandated XBRL-based financial reporting environment?

(x) Every organization in every industry, particularly the big size ones should immediately set in motion activities that will culminate into a full embrace of the XBRL digital reporting technology in order to take advantage of the revolutionary development affecting environmental financial services, e-Government, business intelligence/ knowledge management, supply chain, information providers /content, and business performance. The way to get there is by following the path of: Needs Assessment, Design Solution/Business Plan, Training and Education, as well as Implementation.

(xi) Finally, there is need for government to promote the XBRL as a national means of aggregating and communicating current/future Generally Accepted Accounting and Environmental Standards, through a strong will power reflected in development activities/policies.

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