DOI: 10.36347/sjebm.2015.v02i07.018

Scholars Journal of Economics, Business and Management e-ISSN 2348-5302
Ogbodo, Okenwa Cy.; Sch J Econ Bus Manag, 2015; 2(7B):779-785 p-ISSN 2348-8875

(An International Publisher for Academic and Scientific Resources)

The Imperatives of Sustainability Management Accounting System (SMAS) For Developing Country: The case of Nigeria.

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Abstract: This research study is set out to determine the imperatives for Sustainability Management Accounting System (SMAS) implementation across manufacturing organisations in Developing Countries . The researcher adopted the descriptive survey research design. Primary data were obtained from questionnaire administered to six categories of top management staff of manufacturing companies listed on the Nigerian Stock Exchange (NSE). The data generated from the study were analysed using tables, histograms, frequencies, percentages, means scores and standard deviations. The impact of Sustainability Management Accounting System (SMAS) on Firm Performance as stated in the formulated hypotheses was tested with Linear Regression and One – Way Analysis Of Variance (ANOVA). Our findings revealed that Management Accounting System built on sustainability principles lead to a more accurate identification of environmental and social cost that are not adequately included in the traditional management accounting system. Consequent upon this, SMAS provides more detailed product cost information for proper pricing of products and control purposes in a cyclical environment. He concluded that accurate identification of cost by adoption of SMAS will help in proper internal decision making. Based on the above, the researcher recommended, among others, that manufacturing firms should holistically adopt SMAS in order to enhance performance and gain competitive advantage over other competitors operating within the same industry. Accountants in the manufacturing firms should be adequately exposed to the good and wide knowledge of SMAS through seminars, workshops and conferences; the Nigerian government under her vision 2020 should introduce environmentally sound and sustainable development as two main factors in social, cultural and economic progress and enhancement of quality of life of Nigerians.
Keywords: Sustainability Management Accounting System, manufacturing organizations, survey,

INTRODUCTION

Evidence from the extant literature indicate that firms ordinarily set for themselves the monolithic object of profit maximization and improving shareholders' values [1]. This orthodoxy drives from the view of classical economists who believe that 'corporations should not confuse corporate issues with societal obligations, but rather focus on their core objective of profit maximization' [2]. This philosophy which guided management for years, assumed that corporations had a primary duty of maintaining economic profit to the detriment of their societal and environmental obligations, or at best, pays casual attention to the environment where they operate. However, recent developments in the contemporary globalized economic system seem to be challenging, rather, forcefully this dominant logic of classical economic thinking. In essence, modern thinking favour stakeholder orientation rather than the classical shareholder perspective that held sway. For instance, Elkington [3] observed that firms must also be accountable for social and environmental performance as much as they care for profit. Indeed, since the late 1980s growing public concern has been on the increase regarding negative impact of industrial activities on the society and environment arising from overbearing emphasis on profit and this is been exacerbated by the rising complexity of modern businesses, development and advancement in information technology (ICT), the rapid speed in globalisation process, the global financial crises of the 20th century and most recently, the global economic meltdown which like a canker worn ravaged the world economy between 2007 – 2009, which according to Osisioma [4] was blended in US and marketed across the globe via a highly inter-connected global economic and financial network.

Arguably, the rising nature of interrelationship and interdependence between business and society and among global economic units and changes in economic thinking are mounting enormous pressure on the business organizations to assume more responsibilities for the society, beyond the economic function**.** Companies are thus, in the middle of a complex web of

relations with various and different groups of people who have interest and influence in the ways businesses are managed [5,6]. The World Business Council for Sustainable Development (WBCSD) observed that businesses are integral parts of society and their roles are encouraged by the society; the two are interdependent and must ensure mutual understanding and responsible behaviour [7].

Thus, corporations should use their resources to help alleviate a wide variety of social problems, to give more toward society's well-being, and to help address environmental preservation [6]. Porter and Kramer [34] observed that for companies to be successful they need a healthy society and at the same time a healthy society needs successful companies. This new business paradigm seeks to judge organizations not only on economic performance, but also on its environmental and social impact costs. In other words, the ability of the organisations to put back to the environment and society what they got from them. A number of studies have been carried out to determine the nexus between sustainability accounting principles and firm performance [8,9,10]. However, most of these studies seem to pay attention to the individual components of the Sustainability Management Accounting System namely; economic, environmental and social equity, which has resulted to limited understanding of the relationships between sustainability management accounting system and firm performance. For instance, a strand of the study focuses on the impact of environmental management accounting (EMA) on firm performance [11,12,13] and found differing relationships. Again, other scholars [14,15,16] have investigated the connection between social management accounting on firm performance. The other research stream addressed the impact of Activity Based Costing (ABC) on firm performance [17]. Arguably, these fragmented approaches create serious knowledge - gap since none of the individual components, when treated in isolation is complete enough to describe the reality of the relationship between the constructs. This lack of complete knowledge is capable of worsening the sustainability related problems both at firm (micro) level and at system (macro) level.

The broad objective of this study is to determine the imperatives for sustainability management accounting system usage in manufacturing organisations in developing countries.

From this broad objective, the following specific objectives are derived:

- To determine whether sustainability management accounting system can be utilized in measuring social performance of manufacturing organizations in Nigeria.
- To determine whether sustainability management accounting system can be utilized in measuring environmental performance of manufacturing organizations in Nigeria.

This empirical paper is organised as follows: section two briefly reviews the related literature; section three outlines the research desire and methodology; four present the analysis and interpretations, five discussions of findings and finally section six deals with conclusion and implications.

Based on the objectives of this study, the following research questions were raised:

- To what extent can sustainability management accounting system be utilized in measuring social performance of manufacturing organizations in Nigeria?
- To what extent can sustainability management accounting system be utilized in measuring environmental performance of manufacturing organizations in Nigeria?

BRIEF REVIEW OF LITERATURE

SUSTAINABLE MANAGEMENT ACCOUNTING SYSTEM (SMAS)

A sustainable management accounting system is one that delivers simultaneously economic, environmental and social information [18,19]. Sustainability management accounting advocates a new way of doing business which extends legal and economic responsibilities to satisfy the legitimate social and environmental expectations as well as profit objectives. According to Bennett and James [20], cited in Arroyo [18], sustainable management accounting (SMA) is the generation, analysis and use of financial and non – financial information in order to optimize corporate environmental, social and economic performance and to achieve sustainable business. It is widely acknowledged in the literatures that sustainability is a robust, holistic and a superset of accounting proper, because it aims to incorporate the three performance areas: economic, environmental and social into corporate decision processes. In this vein, a first step in the development of such a sustainable management information system is to investigate the relationship between management accounting and aspects of sustainability [18].

Environmental Accounting (EA)

Environmental accounting term is frequently used within the accounting and environmental management literatures, and relates to the provision of environmental performance related information to stakeholders both within and outside organization. Environmental accounting (EA) helps in evaluating internal and external costs of the environment from

production and service processes, as well as providing environmental performance reporting for management decision on future production [21,11]. Burritt and Saka [22] claimed that EA has been employed as a business tool to provide financial reports and to manage business performance including environmental costs. Environmental accounting is also a key concept that supports decision making in cost analysis and evaluation of environmental costs while allocating costs correctly to products [23, 24]. An important function of environmental accounting is to bring environmental cost to the attention of corporate stakeholders who may be able and motivated to identify ways of reducing or avoiding those costs while at same time improving environmental quality [33]. Environmental related management accounting is 'the generation, analysis and use of financial and non-financial information in order to improve corporate environmental and economic performance' [20,25]. EMA records environmental costs information more accurately to support disclosure of environmental performance, but currently does not cover social issues [24] which is key contribution of this study. Therefore, the study integrates social management accounting (part of social accounting approach) into the development of a SMAS. This may assist companies to become more involved in sustainability management accounting [26].

Social Management Accounting

Social management accounting (SMA) facilitates companies' recording and measurement of social costs for internal decision-making and supports disclosures of social performance [19]. Social Accounting consists of social financial accounting and social management accounting and is concerned with improvements in negative impacts on society, humanity, and (to some extent) the environment. Social Financial Accounting (SFA) provides companies with information for Corporate Social Responsibility Reporting (CSR) to improve external reporting of social costs and provide information of significant concern to stakeholders [27,28]. Social Management Accounting (SMA) facilitates companies' recording and measurement of social costs for internal decision-making and supports disclosures of social performance.

THEORETICAL FRAMWORK

TENETS OF STAKEHOLDER THEORY

The traditional definition of a stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives" [29]. It was originally detailed by R. Edward Freeman in the book Strategic Management: A Stakeholder Approach, and identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. In short, it attempts play to address the 'Principle of Who or What Really Counts'[29]. The nature of what is a stakeholder is highly contested [30], with hundreds of definitions existing in the academic literature [31]. Sustainability considers the contributions of a corporate organisation towards the environmental and social sustainability thereby giving more attention to stakeholders than shareholders. In the traditional view of the firm, the shareholders or stakeholders are owners of the company, and the firm has fiduciary duty to put their needs first, to increase value for them. However, stakeholder theory argues that they are other parties involved, including governmental body, political group, trade association, trade union, communities, financials, suppliers, customers and even competitors. The classical view of corporations is premised mainly on the basis of neoclassical economic theory arguments using notions such as the free market, economic efficiency, and profit maximization. This view might be grounded in three different, but complementary, ways[35]:

- First, shareholders are the owners of the corporation, and managers have no right to act on their own preferences, to make discretionary decisions or to use company's resources to further social goals which cannot be shown to be directly related to profits;
- Second, companies' role is to produce wealth, and pursue socially responsible objectives may impair their performance in that role interfering with efficient resource allocation;
- Finally, other organizations exist to deal with the kind of function requested by socially responsible actions, such as government, and companies and managers are not equipped to perform such role.

METHOD

Questionnaire Design and Administration

The questionnaire was arranged using the Likert-scale format on a continuum of 1 to 5, the options are as follows: strongly agree (SA); agree (A); undecided (UD); disagree (D), strongly disagree (SD). The questionnaire was divided into two parts. Section 'A' which is the preamble part dealt with the background information of the respondents, while Section 'B' was directed on the information concerning the subject under study. The questionnaire was administered on the respondents; Account/Finance department, Production department, human resources department and marketing department of the manufacturing companies understudy.

ANALYSIS & INTERPRETATION OF DATA

Hypothesis One

H_0: Sustainability management accounting system cannot be utilized in measuring social performance of manufacturing organizations in Nigeria.

		Sum of Squares	Do	Mean Square	F	Sig.
SOCIALPERFORMANCE	Between Groups	17.62	119	3.503	29.18	.34
	Within Groups	15.303	130	.118		
	Total	32.923	319	319		

DECISION RULE

Using the ANOVA table, which tests the acceptability of the model from a statistical perspective, the decision rule is as follows: If $F_{value} \geq sig_{value}$ – reject the null hypothesis; otherwise accept. Since 29.18> .34, the null hypothesis is rejected and the alternate accepted.Thus, Sustainability management accounting system can be utilized in measuring social performance of manufacturing organizations in Nigeria.

Hypothesis Two

H_0: Sustainability management accounting system cannot be utilized in measuring environmental performance of manufacturing organizations in Nigeria.

		Sum of Squares	Df	Mean Square	F	Sig.
ENVIRONMENTAL PERFORMANCE	Between Groups	21.29	119	3.503	28.00	.23
	Within Groups	17.303	130	.118		
	Total	38.593	200	319		

DECISION RULE

Using the ANOVA table, which tests the acceptability of the model from a statistical perspective, the decision rule is as follows: If $F_{value} \geq sig_{value}$ – rejects the null hypothesis; otherwise accept. Since 28.00>.23, the null hypothesis is rejected and the alternate accepted. Thus, *Sustainability management accounting system can be utilized in measuring environmental performance of manufacturing organizations inNigeria.*

DISCUSSION OF FINDINGS

- The study revealed that sustainability management accounting system can be utilized in measuring the social and environmental performance of Nigerian Manufacturing organizations. The results of hypothesis two revealed that stakeholders perceive that the combination of management accounting with social management principles would enable them assess the social performance of their firms by strengthening the value of corporate social responsibility information. Suttipun [36] observed that the influence of stakeholders is crucial for corporate image and comparative advantage; and that companies manage their stakeholder relationships by providing information. Thus a sustainability management accounting system would be capable of providing information for the societal assessment of corporate actions.
- The study also found out that the adoption of SMAS by the manufacturing firms in Nigeria will make the firms to be more socially and environmentally friendly and help to curb restiveness or hostilities between the organizations and their host communities over none responsiveness of the firms to their social and environmental obligations.
- The results of hypothesis three revealed that stakeholders perceive that a management accounting system with environmental management principles if installed in organisations would be adequate to assess the environmental performance of their firms by strengthening the value of environmental responsibility information. According to Sendroiu *et al*. [37] the application of only managerial accounting techniques could distort and misrepresent environmental issues, leading to bad decision- making by managers. However, environmental management accounting can solve these issues if applied. The primary aim of environment management accounting is to better inform and otherwise support decision-making processes that are influenced by environmental factors- which are primarily those of accounting and financial management, environmental management and operational management [32].
- The adoption of expanded management accounting system utilizing Environmental Management Accounting (EMA) and Social Management Accounting in its design structure would ultimately help in strengthening the value of social and environmental responsibility information of the corporate manufacturing organizations.

CONCLUSION /IMPLICATIONS

This study has attempted to determine whether a management accounting system built on economic, social and environmental performance management systems is capable of providing management with adequate information for performance appraisal.

Information has been described as a vehicle upon which any business thrives; however, such holistic information must be accurate, precise and timely. This has been the major weakness of the traditional management accounting system. In the absence of accurate and relevant information, management would be incapacitated in the formulation and implementation of critical business decisions for competitive advantage.

Based on this, the following imperatives were therefore deemed consequential for manufacturing organisations in Developing Country in adopting sustainability management accounting system:

- To enable the tracking of their social and environmental cost data. This is usually done by social and environmental management cost systems, inbuilt in SMAS.
- Where possible the involvement of experts in the design and implementation processes is also necessary, to enable the ease of quantification of the social and environmental cost information using financial metrics.
- A goal – congruent behavior of the systems should also be ensured by integrating the social and environmental cost systems with corporate management information system.

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QUESTIONNAIRE

Instruction: Please tick ( ) for the applicable option or provide appropriate answer where necessary.

SECTION A: BACKGROUND INFORMATION

1. Name of Company_____
2. Designation in the organisation:
   - Chief Accountant ☐
   - Production/Engineering team leader(s) ☐
   - Sales/Distribution Executives ☐
3. Level of Educational Qualification:
   - NCE/Diploma (OND) ☐ BSc/HND ☐
   - MBA/MSC ☐ PhD ☐
4. Professional Qualification (Name) _____
   1. Length of service in the organisation:
      - 1-10 years ☐ 11-20 years ☐
      - 21-30 years ☐ 31 years and above ☐

SECTION B

Using the following scale SA – Strongly Agree; a – Agree; ID – Indifferent; D – Disagree; and SD – Strongly Disagree, tick the responses applicable to you in all cases.

S/No	Question Description	SA	A	UD	D	SD
1	Companies respect the social dimension of the way in which they conduct their business and this has effect on their business strategies and profitability.					
2	Sustainability reporting has contributed to stable organizational profit performance.					
3	Strong environmental management accounting enhances economic productivity and prof performance of the company.					
4	The adoption of an expanded management accounting system utilizing social management accounting (SMA) in its design is capable of strengthening the value of social responsibility information					
5	There is a need for the revision of current cost accounting systems to reflect increased demand by corporate stakeholders' for environmental cost information.					
6	Strong environmental management enhances economic productivity and prof performance of the company.					
7	The adequate the information provided by corporate management accounting systems in assessing corporate environmental performance for decision-making.					
8	The adoption of an expanded management accounting system utilizing environmental management accounting (EMA) in its design is capable of strengthening the value of environmental responsibility information					
9	Incorporating environmental and social cost information in product pricing decisions allows management to evaluate in addendum other costs which pertain to producing the product					
10	The sustainability management accounting system framework would provide management with environmental cost information of each product which is relevant for evaluating the environmental implications of producing the product					
11	The sustainability management accounting system framework would provide management with social cost information of each product which is relevant for evaluating the social implications of producing the product					
12	The sustainability management accounting system would provide managers with a better framework for overhead cost allocation which is necessary to ensure that costs are allocated to products generating such costs					
13	Increasing concerns for corporate social responsibility require that managers evaluate the social and environmental implications of any investment project as a criteria to determine its acceptability					
14	Considering the social cost implication of any capital investment as cash outflow would significantly impact the Net Present Value (DCF) or Payback (NDCF) calculation					
15	Considering the environmental cost implication of any capital investment as cash outflow would significantly impact the Net Present Value (DCF) or Payback (NDCF) calculation					