Emerging trend in financial accounting - Green Accounting

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***Abstract*: Green accounting is a contemporary issue in financial accounting. This paper focuses to identify the current trends in green accounting. It also emphasizes on the people's perception regarding green accounting. It was found that most of the respondents felt there is a need of moving towards green accounting and that all the enterprises should start adopting green accounting. It has been observed that India has taken a step forward towards quantifying green accounting. So this might help us to eliminate the problem of non-quantification of green accounting. It is corporate social responsibility for all the enterprises to adopt green accounting. Biggest challenge of environmental accounting and reporting is that it lacks economic value. There is no benchmark or standard method for calculating the value of environmental products. Exclusive accounting standard for environmental accounting is not mentioned. Exempting certain industries it is not a legal obligation to report environmental accounting. No company or industry data is available which would indicate the number of companies reporting environmental accounting. So it becomes a challenge for all of us.**

***Index Terms*: Green accounting, corporate social responsibility**

I. INTRODUCTION

It has been witnessed that the changes in the environment have a negative impact not only on the environment but also on the economy as a whole. And we all know that the changes in economy directly affects the companies/business firms of the economy. At this stage it is also important to note that the Gross Domestic Product of a country can be affected by the environmental and climatic change. in addition to this, because there is a need for the people to become aware and conscious about the environmental issues, necessitates the need for appropriate and enough disclosures by the corporate with respect to this aspect.

Steps taken in India with respect to the aspect:
The government of India. Through its new Companies Act 2013 made Corporate Social Responsibility (CSR) mandatory for the companies who fall within any of the 3 categories mentioned below:

1. Companies having net worth of INR 500 crores.
2. Companies having turnover of INR 1000 crores or
3. Companies having net profit of INR 5 crores.

Steps taken by other countries with respect to this aspect:

Puja Mondal in the article that she shared mentions that, developed countries like Germany, U.S.,U.K., Spain and France have recognized the need for the conservation of energy. Recognizing that the path to a sustainable and healthy future is only possible if one adopts green accounting practices like done by Australia, established the Australian Institute of Environmental accounting that offers various courses. In the U.K., a number of regulations have been passed with regard to CSR. The Companies Act compels the Directors' to provide information in their annual report on risks, the environment they work in etc. In France, laws and regulations affecting CSR have to be strictly compiled with by Companies. Also, the French Ministry of Sustainable development is in charge of publishing the environmental economic accounts every year.

As far as private sectors are concerned, green accountants will advise clients on the impact that a business decision may cause to the Environment. Example: Green Indian States Trust (GIST) is working towards this cause.
Green Accounting generally focuses on:

1. To check environmental costs and benefit to the concern.
2. To differentiate and categorize different environmental costs.
3. To link Physical Resources with Environmental Accounts monetarily.

In short, it can be said that India is in nascent stages of development when it comes to Green Accounting. In fact, most of the world is still not aware about the term 'green accounting'. Even though Indian corporates and business firms comply with CSR etc. there are no clear – cut practices or policies to protect the Environment.
Hopefully, with more awareness on the subject, Green Accounting will become a practice and reality among all firms one day.

II. MEANING AND CONCEPT OF GREEN ACCOUNTING

Green accounting, is also known as environmental accounting, is to quantify, record and reveal the impacts of enterprise environmental activities through a set of accounting systems. The definitions of green accounting in different countries are described below:

International Federation of Accountants, 2005 Environmental Management Accounting Guidelines - Environmental management accounting manages environmental and economic performance by development and execution of a proper environmental accounting system, including reports and auditing of corporate information and environmental management accounting. Generally speaking, It includes lifecycle accounting, total cost accounting, an effective process and strategic planning of environmental management.

Ministry of Environment, Japan, 2005 Environmental Accounting Guidelines - Green accounting is a quantitative assessment of the cost and effectiveness of enterprises in environmental protection activities. Enterprises are required to have systematic records and report and are guided to maintain a positive relationship with ecological environment to implement effective and efficient environmental activities. The final goal is to accomplish sustainable development.

Environmental Protection Administration, Taiwan, 2008 Industrial Environmental Accounting Guidelines - By measurement, records, analyses and explanation, enterprises resources invested in environmental improvement and protection and executive outcomes are completely and consistently reorganized, and the outcomes are provided to stakeholders of enterprises.

III. LITERATURE REVIEW

Mukesh Chauhan (2005), explains the various forms of environmental accounting, its scope, limitations and legal framework in Indian context. He came out with a suggested framework for implementing green accounting practices in India and concluded that It is the call of the time that corporate prepare a firm environmental policy, take steps for pollution control, comply with the related rules and regulations, mention adequate details of environmental aspects in the annual statements.

Harazin (2011) explains the challenges regarding sustainable development. The objective of this study was to find out and come to a conclusion whether the social and integration point of view is outside of the environmental accounting concept. At the end of the study, after various literature reviews and primer researches, the author was able to come to a conclusion that environmental accounting cannot be beyond social and integration challenge of sustainability and so, it can be related to pillars of sustainability.

Lehmann (2011) In this study, the author explains about IAR (interpretive accounting research). The main objective of IAR is to understand how the accounting discipline like management accounting might help in overcoming or suppressing issues related to global warming and sustainability considerations. The author also depicts how interpretive accounting research allows people to rethink the structure and strategies towards the natural world.

Malarvizhi P (2008) focused on an insight into Indian practices tried to establish the approach and scope of environmental accounting and reporting, as it exists today. The study was based on a sample of 24 documents comprising annual reports, environmental or sustainability reports and other relevant reports of past years. Initially companies in the sample were classified as manufacturing and nonmanufacturing sectors. Since some companies operate in both sectors analyzed, the assignment to a specific one was determined on the basis of main activity carried out by the company.

Malik and Mittal (2015) has rightly pointed out that very few industries have adequate information about environmental issues. And those who have mainly concentrates on type of device installed for pollution control, steps for energy consumption, steps for waste water generation etc. Thus appropriate information with regard to resource use is not really available. But such information are crucial for practising sustainable development.

In Murty and Gulati 's report (2006) the aspect of industrial water accounting was emphasized based on a case study of Himachal Pradesh and Andhra Pradesh and in The Natural Resource Accounting in Goa , in Phase-II5 the case study of different industries causing air pollution has been highlighted.

IV. OBJECTIVES OF THE STUDY

- To showcase the importance of Green Accounting in the business environment.
- To understand people's perception with regard to green accounting
- To identify the current issues in green accounting

V. RESEARCH METHODOLOGY

Primary data was collected using descriptive research design and a survey was conducted to understand people's perception towards environmental accounting and its implication. This research study was conducted in Ahmedabad and the sample of 108 respondents was selected for the study. The data was collected and administered using a well-designed structured questionnaire. Likert's scale of agreement (Strongly agree, Agree, Neutral, Disagree and strongly disagree) was used. The score of 5 was used to represent "Strongly agree". Various statistical tools like frequency distribution, cross tabulation and independent sample t- test was used. Secondary data was also conducted to understand the meaning, issues and current trends in green accounting.

VI. DATA ANALYSIS AND INTERPRETATION

A descriptive study was carried out in a way of one to one survey (Questionnaire being the research tool), based on which, the results were obtained.
Total respondents were 108 in number, 50 percent (54) respondents being the males and other 50 percent (54) respondents being the females. Responses were taken from the respondents belonging to different age groups and belonging to various occupations/work culture to cover the views of different types of people. The same has been given in the table as under:

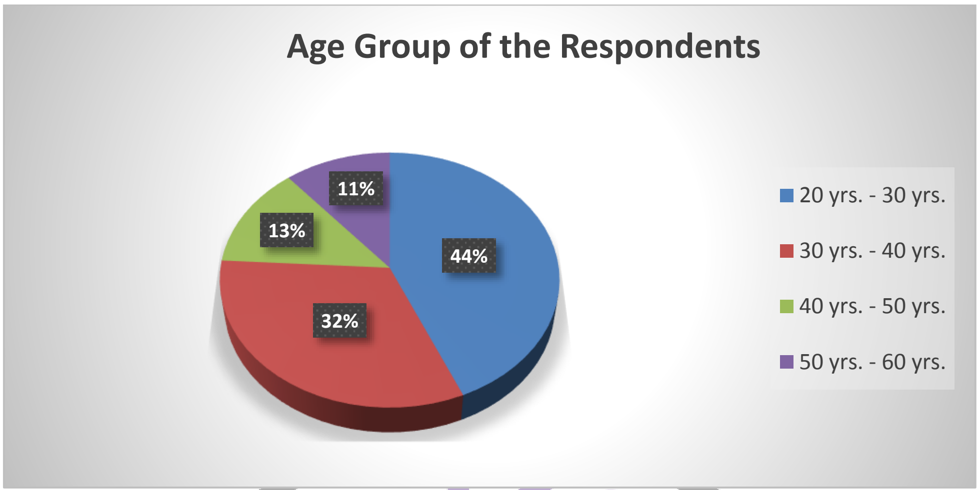

Figure 1

The above chart shows that, 44 percent (47) of the respondents belong to the age group of 20 years – 30 years, 32 percent (35) respondents belong to the age group of 30 years to 40 years, 13 percent (14) respondents belong to the age group of 40 years to 50 years and the remaining 11 percent (12) respondents belong to the age group of 50 years to 60 years.

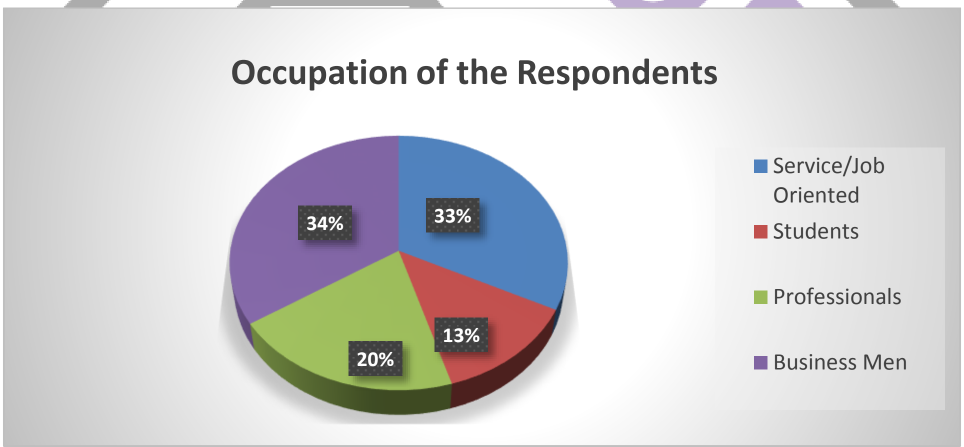

Figure 2

The chart above shows, 34 percent (37) of the respondents are business men, 33 percent (35) are job oriented, 20 percent (22) are professionals and remaining 13 percent (14) are students.

Later on, based on the questions those were asked, the average value was computed in order to understand the opinion.

Table 1

Sr. No.	Parameters
Q.1	A need for creating awareness about environmental accounting
Q.2	Implementation of green accounting in all companies/business firms
Q.3	Reporting status of companies/business firms about green accounting in their final reports
Q.4	Strict actions should be taken by the government if environmental reporting is not followed

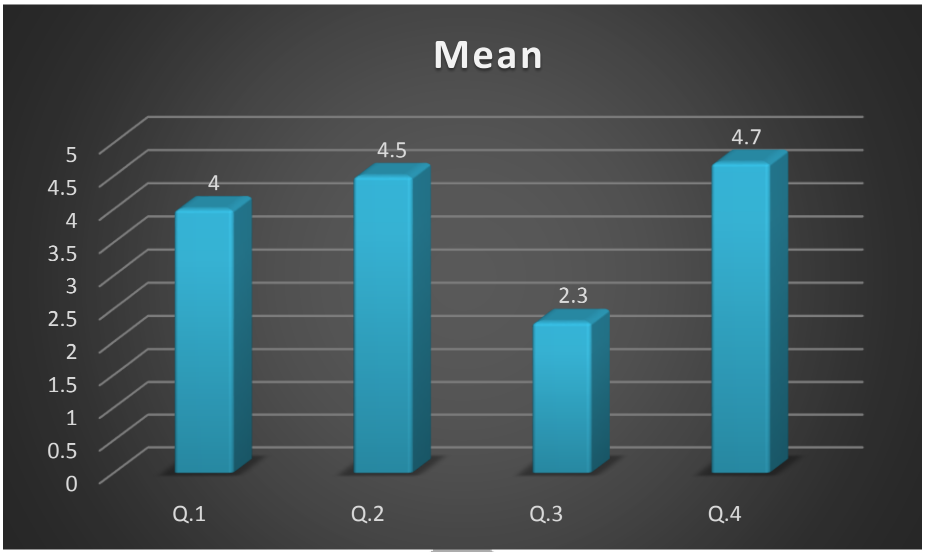

Figure 3

Figure 3 shows that:

1. Mean is '4' which shows that respondents strongly feel and have agreed to the fact that there is a need to create awareness about green accounting as majority of the general mass do not have any idea about the said concept.
2. Mean in this case is '4.5' which shows that response is towards strong agreement with the fact that green accounting should be implemented by all the companies to improve their economic and environmental performance.
   It has been argued at various levels that gross domestic product ignores the environment and so the policy makers needs a revised model that includes/involves green accounting.
3. Here in this case the result (mean '2.3') shows dis-agreement of the respondents regarding the reporting of green accounting by the companies/business firms in their final reports. Majority of the companies/business firms ignores this aspect.
4. Maximum agreement gaining question, mean being '4.7', was when the respondents were asked if they think that the strict actions should be taken against the companies/business firms that do follow green accounting. Majority agreed to the positive side of the question.

Further the respondents were asked whether green accounting should be implemented in all the companies/business firms. Independent sample t test was conducted in order to check whether there is significant difference in the perceptions of people for males and females.

Table 2 Independent Sample T test

Parameters	**Ho**	**p- value**	**Ho**
Should green accounting be implemented in all companies/business firms?	There is no significant difference in the opinion for implementing green accounting in all firms between male and female	0.041	Rejected
Is there a need to create awareness about environmental accounting	There is no significant difference in the opinion for creating awareness about green accounting between male and female	0.364	Accepted

In order to conduct t test the normality assumption was checked. Normality is defined as the "shape of the data distribution or an individual metric variable and its correspondence to the normal distribution, which is the benchmark for statistical methods" (Hair et al., 2006; p. 79). Violation of normality might affect the estimation process or the interpretation of results. For instance, it may increase the chi-square value and may possibly cause underestimation of fit indices and standard errors of parameter estimates (Hair et al., 2006).
Beside the shape of distribution, normality can also be inspected by two multivariate indexes i.e. skewness and kurtosis. The skewness portrays the symmetry of distribution whereas the kurtosis refers to the measure of the heaviness of the tails in a distribution (also known as peakdness or flatness of the distribution) compared with the normal distribution. In normal distribution, the scores of skewness and kurtosis are zero. Hair et al (2006) point out that skewness scores outside the -1 to +1 range demonstrate substantially skewed distribution. However, West et al. (1995) and Kline (2005) suggest that values of the skew index greater than three (3.0) are indicated as extremely skewed and score of the kurtosis index from about 8.0 to over 20.0 describe extreme kurtosis. The skewness and kurtosis statistics were found to be within the accepted limits, which indicated no deviation from data normality.

Hypothesis developed are mentioned in the table above in order to check independent sample t test. Since p value is less than (0.05) for the first parameter in the above table it is proved that Ho is rejected and alternate hypothesis is accepted. It means that there is significant difference in the preferences for males and females when it comes to their views about the implementation of green accounting in all companies/business firms. The mean of male respondents is towards agreement and mean of female respondents is towards neutral. For second parameter the p value is > (0.0.5) hence Ho is accepted and there is no significant difference in perception of people as far as males and females considered. Both male and female respondents strongly agree that there is a need to create awareness about environmental accounting.

VII. CURRENT ISSUES IN ENVIRONMENTAL ACCOUNTING

One of the most important contemporary issue in financial accounting is adopting and practicing environmental accounting in India. It is most crucial and critical issue. The major problem faced in environmental accounting is reporting. First thing which corporates needs to understand is that environmental accounting will help in the economic development of the country. This will directly help any company to grow in its own business development. Many companies do report certain facts of environmental accounting describing the process of curtailing different types of pollution and waste management.

However there is a need of quantifying such facts. Information such as total environmental cost, environmental assets, environmental liabilities will definitely help to understand the environment accounting. But for such information a dedicated team and staff would be required to be appointed which would look after such issues. Technical experts and team is required for calculation of total amount of waste. Classification of waste is also necessary.

There are certain parameters which are of utmost importance in curtailing environmental issues and reporting of environmental accounting such as Environment policy, Energy conservation, Environmental disclosure practices, Key indicators for environment. It has been observed that companies fails to give voluntary disclosure of environment reporting with regard to such parameters.

Companies do follow environmental accounting to a certain extent but so far as no regulation has been framed which would help all the companies to give compulsory disclosure with regard to environmental accounting.

VIII. CONCLUSION

The study concluded that respondents do have a concern for green accounting. They also urge that green accounting should be adopted. There is also a need for all the companies to start practicing the assessment for green accounting and move towards it. It was also found from secondary data that India has started a movement towards quantifying various aspects of environment like forest area, total rainfall, etc. This will definitely help the country in assessment of green accounting. The further action suggested for adopting green accounting would be assessment and measurement of total amount of environment affected by various companies and equipment responsible for generation of waste. Also one of the limitation in assessment and measurement of green accounting is that the information gathered should be recent and should be updated from time to time. The problem here will be that the time duration for gathering the data will be lengthy. It is also concluded that strict action should be taken against the companies who are not reporting for green accounting.

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