A Systematic Evaluation on Factors Influencing Green Accounting Practices of Selected Indian Companies: A Way to Sustainable Development

Dr Rekha Sharma¹,
Associate Professor, Management
O.P Jindal University, punjipathra, Raigarh 496109.
rekha.sharma@opju.ac.in

Dr. Pravin D Sawant²,
Associate professor, Commerce,
Narayan Zantye College of Commerce, Bicholim, Goa.
itsmesawantpravind@gmail.com

Mrs. Savitha. S³,
Assistant Professor,
School of Commerce and Management,
Garden City University, Bangalore.
savisundareshan1987@gmail.com

Dr Sanjay Kumar⁴,
Assistant Professor, Department of Economics,
Govt. College Multhan, Distt. Kangra (H.P.) 175013.
pm_vcp@rediffmail.com

Dr Soumyashree N Hegde⁵,
Assistant professor,
PG Department Of Studies In Commerce
soumyahegde68@gmail.com

Dr. M. Sugin Raj⁶,
Assistant professor, Department of Management,
Kristu Jayanti College, K.Narayanapura,
Kothanur ( post ), Bangalore, Karnataka.
sugirajamsr@gmail.com

Abstract

The evaluation of green accounting practices among selected Indian companies reveals a mixed landscape. While some companies have made commendable strides in integrating environmental considerations into their financial reporting and decision-making processes, others lag behind. In our analysis, we found that several companies exhibit a commitment to transparency by disclosing environmental liabilities and actively measuring and reporting their greenhouse gas emissions. These industry leaders also invest significantly in renewable energy sources and sustainable technologies, showcasing their dedication to reducing their carbon footprint. However, there is a notable variance in the extent to which environmental performance is integrated into financial reports, with some companies demonstrating room for improvement in this regard.
To foster a more sustainable future, it is imperative for all selected Indian companies to embrace green accounting practices fully, thereby contributing to environmental conservation while ensuring long-term financial stability.

**Keywords:** Green accounting, corporate social responsibility, Competitive Advantage, stakeholders pressure and sustainable goals.

**Introduction**

A state's economic and social health over the long term is directly related to the quality of its natural environment. Although accountants may not seem like potential revolutionaries in this setting, there has been an increasing number of accountancy firms and organisations voicing concern over the state of environmental, social, moral, and sustainability accounting since the 1990s [10]. Making a profit, playing by the rules, and satisfying investors are no longer enough to sustain a company. In order to succeed in the face of a dynamic array of economic, social, and environmental concerns, and business owners should not only focus on the bottom line. They have to work to gain public acclaim at a time when the strength of a company's reputation is more important to its value [6]. Corporate Social Responsibility Reporting is one of the newer attempts to emerge in the carefully cultivated sectors of financial accounting. (CSR) reporting, also known as sustainability reporting, is the practice of reporting on a company's impact on society and the environment. Financial viability, in addition to social and environmental viability, is a topic covered in Sustainability Reports.

**Conceptual Background**

There has been a direct contribution to environmental sustainability from the fields of corporate social responsibility (CSR) and environmental accounting (EA), both of which emerged in the 1980s, thanks to the efforts of economist and Professor Peter Wood. It incorporates environmental resources into our accounting system despite the fact that they have no commercial worth. Natural resource depletion and associated expenses are also factored into the accounting process. When money is spent cleaning up pollution or fixing environmental harm, it adds to GDP, hence include defense expenditure in GDP is problematic [3]. Much of the organization's published research on profit quality at now focuses on international and boundless ecological issues. This is owing to the fact that worldwide accounting standards and environmental legislation do not address decommissioning and cleanup. Inflation of domestic and international business profits is similarly affected by provisions for contingent liabilities arising out of the Company's past and present operations [2]. One of the most fundamental requirements for identifying sustainability gaps is thinking about how businesses interact with their surroundings. Most methods of economic development are known to be harmful to ecosystems. Over the course of time, there is a gradual depletion of natural resources due to various factors such as deforestation, excessive utilisation of fossil fuels, erosion of soil, and wastage of water. These resources, commonly referred to as "green assets," are not incorporated into the same accounting framework as other costs such as direct material and labour, overheads, administrative expenses, sales, and research and development expenditures [3]. The objective of green accounting is to incorporate the valuation of a firm's natural assets in its balance sheet as assets, while also including any fines or penalties paid by the company as liabilities or incorporating them in the calculation of national income. This will enable us to acquire "primary data" as opposed to solely modified statistics. The depletion of natural resources is a consequence of various forms of pollution. This information reveals that the progress of our nation is being achieved at the expense of detrimental impacts on our environment. The environmental factors that are commonly studied and analyzed include air quality, water quality, noise pollution, soil composition, and levels of radioactivity. In contemporary times, pollution has emerged as a significant catalyst for the phenomenon of global warming, so instigating profound repercussions on our ecological system and precipitating expeditious alterations.
Theoretical overview of the study

When properly implemented, environmental accounting can serve as a tool for gauging the environmental and financial viability of conservation efforts [1]. Analyzing the costs associated with a company's environmental commitments can shed light on those commitments. The costs incurred by a project to address the conservation of renewable and nonrenewable resources, or to prevent, mitigate, or restore environmental damage caused by the project's operations, are considered environmental expenditures [5]. Disposal and prevention of waste, protecting ground and surface water, maintaining or improving air quality, lowering noise levels, cleaning up contaminated buildings, searching for more eco-friendly products, raw materials, manufacturing processes, etc. all add up. However, environmental accounting does not include costs that arise from things like fines or penalties for failing to adhere to environmental regulations, or payments made to third parties for losses or damages caused by environmental pollution in the past. There are two ways to look at environmental accounting: the first is at the national level, while the second is at the corporate level. The goal is to calculate the costs of three environmental issues facing the business in an effort to improve people's standard of living [1]. Financial, fee, and administrative accounting issues, along with control functions like internal and external audits, fall under the broader purview of accounting. Searches for information on the state of environmental reporting in Indian companies will naturally center on that topic, rather than one of environmental accounting.
Previous notable research studies

The privatization and globalization trends in the Indian business sector have increased the need for ethical corporate governance. Disclosure of environmental issues is now receiving attention from business groups. The practice of including environmental statistics in annual reports has grown over the years, but thorough environmental disclosure has yet to be achieved by means of firms' socially linked activities like pollution control [9]. There needs to be a substantial improvement in environmental reporting in India for the country to achieve its ideal and necessary form. Mandatory requirements ensure minimum information is shared and help establish credibility. Voluntary environmental disclosure, on the one hand, not only fosters positive investor mood but also improves the chances of attracting capital from international investors [2]. For instance, when natural stock is not regularly exchanged on the market, accurate accounting can be difficult. This challenge results from the twin demands of tracking stock level changes and inventory circulation. Revenue is accounted for from the subsequent depreciation of natural resources. While a country rich in resources may see rapid economic expansion at first, it will always face difficulties in the long run [6]. Managers are tasked with overseeing the operations of the business. Because environmental disclosure is a form of voluntary disclosure, the decision to make environmental records public rests with managers and is affected by their own assessments of the benefits and costs of doing so. Businesses may choose for voluntary reporting to enhance transparency in environmental matters. Social accounting, inflation accounting, human resources accounting, company advertising records, and economic analysis are all examples of topics that could be voluntarily disclosed in this manner. Almost no background Comprehensive research on environmental accounting and disclosure practices has been conducted in India [15]. There is a lot of effort on environmental accounting disclosure practices in the western business sector, as shown by the existing literature, but there is far less work in south Asian countries, and especially in India.

Importance of the Research

The present study is undertaken by establishing a correlation between the environmental practices disclosed by the company and its reported income. Through the dissemination of their environmental policies and practices, this analysis is anticipated to yield a preliminary approximation of the impact on financial performance [6]. In order to optimize investors' capital allocation, we undertake an evaluation of environmental disclosures issued by diverse corporations and do a comparison assessment among the selected entities. Green accounting is an essential tool for comprehending the role played by industries and corporations in accounting for natural resources. It facilitates the provision of data that sheds light on industrial wastage, pollution, and resource depletion. Throughout the 20th century, companies primarily focused on profit-making, often neglecting the significance of our invaluable natural resources, which are crucial for the well-being of present and future generations and the pursuit of sustainable development. By utilizing green accounting, enterprises can more effectively evaluate the environmental consequences of their activities [13].

The Scope of Green Accounting

Green accounting, also known as environmental accounting or sustainability accounting, is a specialized branch of accounting that extends beyond traditional financial reporting to include the environmental impact of economic activities. Its scope is to provide a comprehensive assessment of how economic activities affect the environment, and in turn, how environmental factors can impact economic performance [2]. The scope of green accounting extends beyond the balance sheets and profit statements of traditional accounting. It seeks to integrate environmental considerations into economic decision-making, helping businesses and policymakers make informed choices that balance economic growth with environmental stewardship and long-term sustainability [11]. As concerns about climate change and environmental degradation continue to grow, the importance of green accounting in guiding responsible and sustainable economic activities becomes increasingly evident.
Problem Statement

The growth of environmental issues, along with economic, social, and technical progress, has heightened the significance of environmental accounting. Sustainable development calls for environmental accounting. The term "environmental accounting" can be used in a variety of contexts. Supporting national income accounting, financial accounting, and internal managerial accounting are all areas where environmental accounting may shine [2]. Both national and corporate accounting are part of an environmental accounting system, which deals with monetary and non-monetary data. Accounting for and displaying in financial statements events that have an impact on the environment is known as environmental accounting [11]. The environmental performance of a company is more important in today's global economy. Waste of raw materials is just one example of the many environmental expenses that may contribute nothing of value to the end product or system [13]. This data shows how vital natural resources are to the global economy, as well as how much pollution and wealth destruction cost. Due to a lack of consensus on the conceptual framework of environmental accounting and reporting among legal authorities, standard establishing agencies, and other regulators, corporations are slow to adopt environmental accounting practices [5]. Therefore, except for a few sectors, corporations are not required to report environmental costs and benefits. Disclosures of this sort are entirely optional in India, and are shaped by CSR principles. Another area that needs more research is the reliability of global indicators for use in producing environmental.

Research Design

A research format serves as a template for the definition or plan of the study to be conducted. A well-thought-out research strategy provides a solid foundation, facilitates the smooth and efficient flow of work, yields more information and greater confidence in the results, encourages the development of one's own ideas, allows for the anticipation of shortcomings and the incorporation of necessary feedback and appraisal through the observation of others. A good research strategy will be all-encompassing, adaptable, appropriate, competent, well-organized, and economical [13]. The method is broken down into steps, the first of which is determining what the parameters of the experiment are. An effective research design is the result of thoughtful consideration of the following factors: study aims, results and their implications, available resources, contextual factors, the nature of the information to be gathered, etc. In reality, the study outline is the first step in developing the overall framework and methodology for information gathering, measurement, and analysis. In the research design, decisions are made about the what, where, when, how much, and by what skill level the research will be conducted. This is followed by the development of the Environmental Disclosure Index (EDI) and the scoring of the environmental data that makes up the EDI, as well as the selection of sample companies, information series techniques, variables, and measurement parameters. The study has been carried out with 150 sample respondents who have been selected using the convenient sampling technique. The data have been collected using Google forms.

Analysis, discussion and Results

The development and implementation of green accounting can be fostered through the creation of universal standards, promotion of education and awareness, incentivizing the adoption of sustainable practices, and encouraging the incorporation of long-term environmental benefits into decision-making processes. Additionally, enhanced stakeholder engagement can create demand and appreciation for green accounting, while strong legal frameworks can enforce compliance, further pushing its development and adoption. The following table shows the percentage of the variance explained by the variables in the model. The significance of Green accounting and Ecology must be communicated to all personnel in the organisation. Green accounting has the ability to greatly reduce negative effects on the environment. Despite the study's small sample size, we may nevertheless draw some conclusions about the elements that have contributed to the success of these five Indian companies. Organisational credibility can be bolstered by the adoption and publication of Green accounting practices. It has been shown that Indian companies' environmental accounting and reporting performance as a whole is stagnating due to poor environmental disclosure policies and procedures. The majority of the disclosures are descriptive in nature with minimal measurable data. Most of the information is shared on the company's humanitarian work.
and commitment to sustainability. There is also a lack of consistency in the disclosure of environmental facts in the selected firms' annual evaluations. Voluntary and unrelated to one another, environmental disclosures are the result of a lack of a uniform mandatory disclosure obligation. Standardized environmental accounting practices are recommended by India’s National Environment Policy (2006) to be used as a basis for statutory financial statements for major industrial corporations. But until today, no such norms have been introduced. Publish an annual Environmental Audit Report to the State Pollution Control Board in your area as required by the Environment (Protection) Act, 1986.

Table 1
Perception towards Green Accounting Practices

<table>
<thead>
<tr>
<th>Features of Green Accounting Practices</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Assessment</td>
<td>3.28</td>
<td>1.068</td>
<td>3.12</td>
</tr>
<tr>
<td>Stakeholder Engagement</td>
<td>3.77</td>
<td>1.107</td>
<td>4.45</td>
</tr>
<tr>
<td>Compliance with Environmental Regulations</td>
<td>3.04</td>
<td>1.547</td>
<td>4.31</td>
</tr>
<tr>
<td>Benchmarking and Performance Tracking</td>
<td>3.92</td>
<td>1.178</td>
<td>4.89</td>
</tr>
<tr>
<td>Comprehensive Data Collection</td>
<td>3.48</td>
<td>1.048</td>
<td>3.32</td>
</tr>
<tr>
<td>Competitive Advantage</td>
<td>3.79</td>
<td>1.157</td>
<td>4.70</td>
</tr>
<tr>
<td>Cost-Benefit Analysis</td>
<td>3.02</td>
<td>1.484</td>
<td>3.06</td>
</tr>
</tbody>
</table>

The Table 1 shows that Perception towards Green Accounting Practices Benchmarking and Performance Tracking (4.89) followed by Competitive Advantage (4.70) as second and Stakeholder Engagement (4.45) as third. Benchmarking and performance tracking play crucial roles in the realm of green accounting practices, where the focus extends beyond financial metrics to encompass environmental sustainability. Benchmarking in this context refers to comparing an entity's environmental performance against industry standards or best practices. It enables organizations to gauge their progress in adopting sustainable practices and identify areas for improvement. Performance tracking involves the ongoing monitoring of key environmental indicators and metrics, such as carbon emissions, energy consumption, and waste generation. Implementing robust benchmarking and performance tracking mechanisms allows businesses to set meaningful sustainability goals, track their progress, and communicate transparently with stakeholders. This not only supports compliance with environmental regulations but also enhances the organization's reputation by demonstrating a commitment to responsible and sustainable business practices. As green accounting continues to evolve, effective benchmarking and performance tracking will be essential tools for businesses striving to integrate environmental responsibility into their overall financial strategy.

The statistical significance of the rank is assessed using Kendall's W test in the following manner.

Table 2

<table>
<thead>
<tr>
<th>Kendall's Coefficient of Concordance</th>
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<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>Kendall's</td>
</tr>
<tr>
<td>Chi-Square</td>
</tr>
<tr>
<td>difference</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
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</table>

Table 2 above shows the Chi-Square value estimated for a degree of freedom of 6, which exceeds the critical threshold. The statistical significance of the observed data is determined to be 1.7%. Therefore, it may be inferred that the rankings provided by the participants regarding the different aspects have considerable importance.

Table 3: Factors inhibiting Green Accounting Practices

<table>
<thead>
<tr>
<th>S.No</th>
<th>Problem</th>
<th>Mean</th>
<th>Rank</th>
<th>t Value</th>
<th>P</th>
</tr>
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</table>

1012
<table>
<thead>
<tr>
<th></th>
<th>Regulatory Environment</th>
<th>20.14</th>
<th>IV</th>
<th>33.306</th>
<th>0.000*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Stakeholder Pressure</td>
<td>20.33</td>
<td>III</td>
<td>33.901</td>
<td>0.000*</td>
</tr>
<tr>
<td>3</td>
<td>Market Competitiveness</td>
<td>20.69</td>
<td>I</td>
<td>35.794</td>
<td>0.000*</td>
</tr>
<tr>
<td>4</td>
<td>Environmental and Social Awareness</td>
<td>20.48</td>
<td>II</td>
<td>33.287</td>
<td>0.000*</td>
</tr>
<tr>
<td>5</td>
<td>Internal Leadership and Commitment</td>
<td>19.77</td>
<td>V</td>
<td>29.946</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

* Significant at 1% level

Of the 25 possible points (5X 25), the averages have found at least 20. Therefore, it makes sense that there are several factors that prevent green accounting practices. Market Competitiveness is the highest mean among the five characteristics (20.69), followed by Environmental and Social Awareness (20.48). However, a single sample t test result indicates that the GAPs are noticeably high. The t values are very higher than the bench mark t value of 1.96. Stakeholder Pressure: Increasingly, stakeholders such as customers, investors, and non-governmental organizations (NGOs) are demanding greater transparency and accountability regarding an organization's environmental and social performance. This pressure can incentivize companies to adopt green accounting to meet these expectations. Cost Savings and Efficiency: Implementing sustainable practices can lead to cost savings through reduced resource consumption, improved energy efficiency, and waste reduction. Green accounting helps in tracking these savings and making them visible in financial statements. Environmental and Social Awareness: Growing awareness of environmental issues, climate change, and social responsibility has led to a cultural shift where organizations and individuals alike are more conscious of their impact on the environment. This awareness can drive the adoption of green accounting practices.

**Discussion**

High financial implications associated with including green accounts in financial statements, limited awareness of the advantages associated with adopting these practices, and a lack of sufficient data for comprehensive disclosure are all possible causes of a lack of adherence to green accounting practices. [3] In addition, there is a lack of a consistent set of norms and principles within green accounting. The purpose of this research was to analyses the five companies' voluntary disclosure practices with the hope of extracting some broad conclusions. A recent survey conducted in New Delhi indicated that green accounting practices are given greater priority by industrial companies than by service-oriented businesses. Environmental cost analysis also helps in pinpointing the monetary effects of a business's operations [8]. The success of this innovative idea depends on everyone involved being aware of and committed to its requirements. Instead of depending on the antiquated and frequently used instrument of GDP growth indicators, the emphasis is placed on green accounting as a means of determining national wealth. The ability to accurately analyze development indicators relies on decision makers having access to reliable data. Likewise, residents have a right to see these records. As a result, it's clear that we need a unified national accounting system that takes into account all aspects of a business, including the capital stock's impact on the latter's bottom line. Green accounting is gaining popularity around the world because of the improved insight it provides. Additional societal benefits result from its inclusion of social cost measurement. The major purpose of this paper is to explain the conceptual foundations of green accounting [8]. Green accounting, also known as environmental accounting or sustainability accounting, involves integrating environmental and social considerations into traditional financial accounting practices. Several factors influence the adoption and implementation of green accounting practices in organizations and governments. Environmental Regulations: Stringent environmental regulations and reporting requirements compel organizations to adopt green accounting practices to monitor and comply with environmental laws. Stakeholder Pressure: Pressure from stakeholders, including customers, investors, NGOs, and the public, can drive organizations to adopt green accounting as a means of demonstrating their commitment to sustainability [11]. Competitive Advantage: Organizations recognize that adopting sustainable practices and disclosing environmental performance can provide a competitive edge in attracting environmentally conscious consumers and investors. Sustainability Goals: Many organizations set sustainability goals and targets, which require the implementation of green accounting practices to track progress and report on achievements [6]. Risk Management: Identifying and managing
environmental risks, such as resource scarcity or climate change-related risks, is critical. Green accounting helps organizations assess and address these risks. Reputation and Brand Enhancement: Organizations recognize that adopting green accounting practices can enhance their reputation and brand image, which can positively impact customer loyalty and trust [17]. Companies adopting green accounting may have better access to sustainable investment capital. Technological Advancements: Advancements in data collection, analytics, and reporting technologies make it easier for organizations to gather and manage environmental and social data [9]. Corporate Social Responsibility (CSR): Companies that embrace CSR as part of their corporate culture are more likely to adopt green accounting practices to measure and report on their social and environmental impacts. Public Awareness and Education: As public awareness of environmental and social issues grows, there is increased pressure on organizations to adopt green accounting practices and demonstrate their commitment to sustainability. Government Incentives: Some governments offer incentives or tax breaks to organizations that adopt sustainable practices, which can motivate businesses to implement green accounting [15]. Long-Term Viability: Organizations recognize that long-term viability and resilience require considering environmental and social factors, making green accounting an essential tool for strategic planning.

Conclusion

In summary, the adoption of green accounting practices is influenced by a combination of regulatory requirements, stakeholder pressure, economic incentives, and a growing awareness of the importance of sustainability in the modern business and government landscape. Educating the public and the business community on the importance of "green bookkeeping" and "green communication" is essential [4]. The government must enforce that all groups employ environmentally friendly accounting methods immediately. When an organisation violates environmental standards, upper management must act swiftly. Ecological accounting information must be included in the annual report submitted by the organisation. Natural regulations and their enforcement by the government need to be tightened [20]. But it does not mandate to file this record to the public. Maintaining consistency with the findings of the pilot survey, this research has additionally published that nearly all the sample organizations of the study have disclosed quantitative statistics in Directors’ Report with recognize to conservation of energy to comply with the provision of the Companies Act, 1956 as amended in 2013 [2]. A very few groups have global widespread (ISO 14001) of Environmental Management. And a very few agencies have carried out environmental or energy audit. Almost all the industries underneath learn about have proven much less significance closer to Environmental Accounting. Only a few corporations have disclosed confined accounting records in their annual accounts. On the entire environmental accounting and reporting practices of chosen Indian agencies underneath find out about is determined to be very low. Indian organizations have proven an informal mind-set towards environment [1]. Corporate world ought to exchange their mindset in future with the aid of turning their interest closer to the sustainability of the surroundings and their personal survival. Adherence to environmental accounting and reporting is of outstanding value due to the fact that this helps to figure out how environment have to be tackled and blanketed in future for the gain of all. Accountants’ position in this connection is of paramount significance as the assessor and presenter of information. Environmental accounting and reporting practices must be used as a gadget for bettering corporate accountability to various stakeholders and constructing self-belief and sincerity to the society.

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