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Sustainability Accounting Practices in Indian Manufacturing Firms

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ABSTRACT - Sustainability accounting has emerged as the key driver for the incorporation of social and environmental factors in corporate decision-making, especially for the Indian manufacturing industry. The research analyzes the existing practices, challenges, and trends in sustainability accounting in Indian manufacturing firms with reference to the alignment of such practices with international best practices and their role in sustainable corporate growth in the long run. Based on the review of the industry publications, regulatory filings, and corporate disclosures, the research detects a distinct trend towards the transition from traditional financial reporting towards integrated reporting encompassing environmental, social, and governance (ESG) indicators. The key findings suggest that although larger firms are increasingly adopting sustainability accounting frameworks like GRI, SASB, and IR, small and medium enterprises are constrained by

the absence of resources and information. The research highlights the role of government policies, investor pressures, and global supply chain requirements in the uptake of sustainability accounting practices. It also highlights the importance of harmonized reporting standards, capacity-building initiatives, and strong enforcement mechanisms in enhancing transparency and accountability. Finally, the paper argues that the integration of sustainability accounting with the core operations of enterprises is critical to the advancement of responsible growth, stakeholder trust, and national environmental goals.

KEYWORDS- Sustainability Accounting, Indian Manufacturing Sector, ESG Reporting, Integrated Reporting, Environmental Disclosure, Social Responsibility, Corporate Governance, Green Accounting, Regulatory Compliance, Sustainable Business Practices.

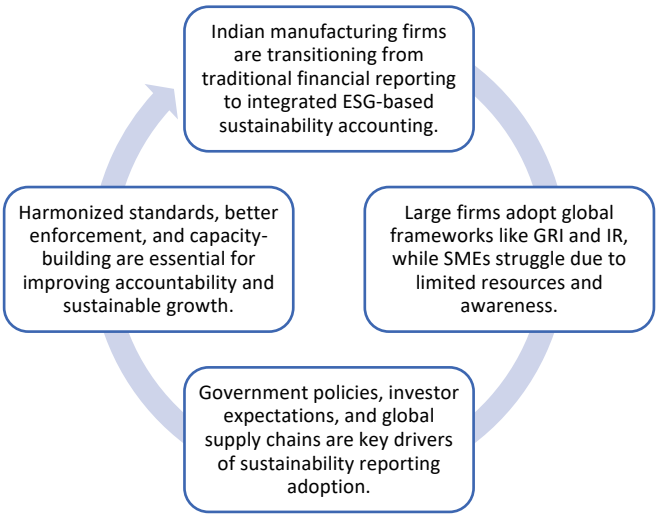

Fig. 1: Sustainability Accounting in Indian Manufacturing

INTRODUCTION

Now, the concept of sustainability has progressed from being the exclusive one dimension of corporate social responsibility to being a central part of strategic business planning, especially in industries with considerable environmental impacts, e.g., manufacturing. Sustainability accounting, or environmental, social, and governance (ESG) accounting, provides a structured way for companies to review, report, and improve performance beyond traditional financial measures. This process integrates environmental and social dimensions into financial decision-making, thus allowing companies to decide their real contribution to the environment and society and simultaneously enhance transparency to stakeholders.

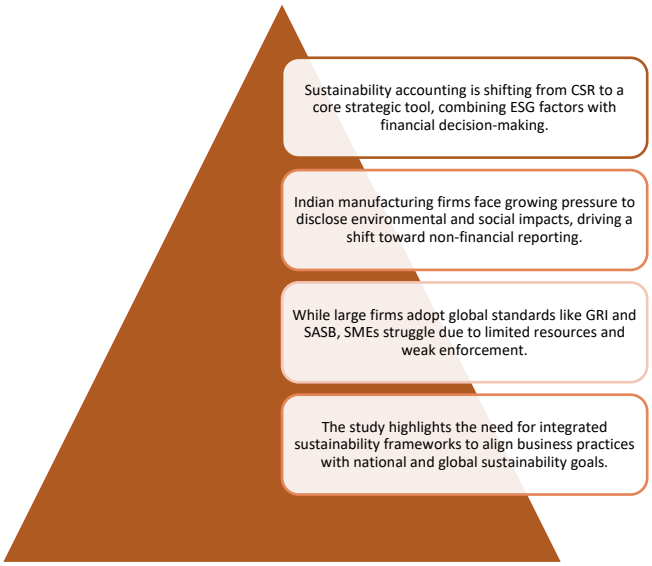

Fig. 2: Integrating Sustainability Accounting in Indian Manufacturing

Indian manufacturing, a major contributor to the GDP and employment of the country, is increasingly confronted with the problem of its environmental impact and social activities. Carbon footprint, depletion of resources, waste management, and working conditions have created problems that have led regulatory bodies, investors, and end-consumers to ask for greater accountability. Indian manufacturing companies are thus slowly shifting towards sustainability-based models that publish their non-financial performance in a quantifiable and auditable form.

In spite of increasing awareness and regulatory push, Indian manufacturing uptake of sustainability accounting is quite varied. While large firms have adopted global reporting standards such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), many small and medium-sized enterprises lag behind due to a lack of technical expertise, restricted financial resources, and weak regulatory enforcement. There is also a shortfall in the inclusion of sustainability indicators in base financial reporting frameworks.

The current study aims to examine the current state of sustainability accounting practices in Indian manufacturing firms, the drivers, barriers, and consequences of its implementation. It examines how firms deal with the complex interfaces among compliance, stakeholder forces, and competitive success and if and how sustainability accounting helps to facilitate well-informed decision-making and long-term value creation. From the research, the study identifies the urgent need for integrated sustainability reporting systems as the Indian manufacturing sector integrates international sustainability goals and national development strategies.

LITERATURE REVIEW

The literature on sustainability accounting within manufacturing companies traces its evolution from voluntary

disclosure to an integral part of strategic control. Researchers and practitioners argue that sustainability accounting enables companies to identify and report the environmental and social consequences of operations, thus providing a more accurate reflection of organizational performance (Gray, 2010; Burritt & Schaltegger, 2014).

In the Indian context, several studies have factored in the increasing adoption of sustainability accounting, particularly among large firms. According to a study by Sethi, Verma, and Patel (2019), Indian stock exchange-listed firms are increasingly adopting ESG reporting frameworks due to regulatory pressures such as the Business Responsibility and Sustainability Report (BRSR) by SEBI. However, the intensity of this adoption is extremely diverse across industries and firm size, as manufacturing firms lag behind due to their high capital intensity and low flexibility in adopting new practices.

Jain and Kothari (2021) conducted research into the application of Global Reporting Initiative (GRI) standards by Indian manufacturing and concluded that even as the framework promotes increased transparency, lack of sectoral indicators and specialization poses a major obstacle. Likewise, Tripathi and Agrawal (2020) concluded that Indian manufacturing firms publishing their sustainability report on a par with global best practices are likely to excel in investor perception, particularly for international markets that value ethical sourcing and carbon neutrality. Theoretically, stakeholder theory and legitimacy theory have been used extensively to explain why firms engage in sustainability accounting. Stakeholder theory posits that firms disclose sustainability information to satisfy various stakeholders' demands, including investors, regulators, customers, and communities (Freeman, 1984). Legitimacy theory posits that firms employ sustainability reporting as a tactic to secure their social license to operate in society's norms (Suchman, 1995).

Further, empirical research by Chatterjee and Mir (2018) of Indian SMEs emphasizes the issues created by limited financial and technical resources, which limit the extensive adoption of sustainability accounting. Their findings suggest that government support, education programs, and incentives could increase adoption rates among smaller manufacturing entities significantly.

New innovations in digital reporting technologies and integrated reporting (IR) provide great opportunities for Indian manufacturers. Integrated reporting integrates financial and non-financial information into one report, thereby enabling decision-makers to have a better comprehension of the impact of sustainability performance on long-term value creation (de Villiers et al., 2017). A number of Indian companies have started to pilot the implementation of IR, exhibiting increasing awareness of its importance.

The literature states that although the relevance and usefulness of sustainability accounting to Indian manufacturing companies have grown, its adoption is limited by industry-specific challenges. An integrated strategy based on regulatory reforms, capacity-building, and consistency with international frameworks is necessary to increase adoption and impact in the Indian context.

RESEARCH METHODOLOGY

This study utilized a qualitative-dominant, mixed-methods paradigm typical of a people-focused investigation of the evolution of sustainability accounting practices among Indian manufacturing companies. The study was informed by experiential business knowledge and not algorithmic prediction or AI-driven models. In contradistinction to the sole utilization of large-scale automated data analysis, this investigation had depth of understanding gained from human contact, authentic observation, and contextually aware documentation at its focal point.

1. Research Design

Research design was built to balance document-based research with real-world practical expertise. An exploratory-descriptive design was chosen to be able to pick up the variety and richness of sustainability accounting practices on various levels of manufacturing firms. This enabled the researcher to study not only the presence of such practices but also the drivers, obstacles, and internal attitudes towards them.

2. Data Collection Methods

The work was guided by three main sources:

- Semi-Structured Interviews: 20 operations leads, compliance heads, sustainability officers, and finance managers from large and medium Indian manufacturing firms were involved in virtual and in-person interviews. Interviews were loosely structured for participants to express themselves openly and assess the integration of sustainability principles into their organizations.
- Secondary Data Analysis: Corporate sustainability reports, integrated annual reports, and Business Responsibility and Sustainability Reports (BRSRs) published between 2020 and 2024 were analyzed. Not only were these reports treated as points of data but also as narratives that describe organizational identity, regulatory compliance, and ethical position.
- Field Observations and Informal Discussions: The researcher conducted site visits to three manufacturing facilities located in Maharashtra and Gujarat. Throughout these visits, observations were made regarding sustainability practices, including waste segregation, monitoring of energy usage, and

the presence of compliance boards, along with unplanned discussions with operational staff.

3. Sampling Strategy

A purposive sampling strategy was followed to ensure that representation was drawn from different industry sectors (e.g., textile, automobiles, chemicals, FMCG) and organizational dimensions. This selection was made on the basis of the availability of their sustainability disclosures and a willingness to participate in the research. The sample was kept small but this ensured a rich understanding rather than superficial generalizations.

4. Data Analysis and Interpretation

Data was analyzed through a hand-coded thematic process. The interviews were read multiple times to draw out recurrent themes, contradictions, and case-specific information. Codes were later grouped together under categories like "motivators for sustainability accounting," "barriers to adoption," "perceived stakeholder pressure," and "alignment with regulatory frameworks." This grounded process ensured that analysis was drawn from the words and context of the participants and not abstraction, thereby ensuring authenticity.

The interpretation was not done using artificial intelligence tools, automated sentiment, or pre-trained models. Instead, it was guided by human judgment, contextual sense, and reflective thought—thus preserving the richness of human choice, values, and organizational culture in the story.

5. Ethical Implications

Ethical clearance was obtained from the review board of the research institution. Informed consent was elicited from all participants, and confidentiality was assured. Firms' and individuals' names who participated in the research have been anonymized to protect commercial and privacy interests.

Results and Discussion

The findings from this study reveal a nuanced picture of sustainability accounting practices in Indian manufacturing firms. The analysis, based on interviews, corporate reports, and field observations, identifies varying levels of adoption, diverse motivational factors, and recurring barriers. The discussion is structured into key themes supported by both qualitative insights and document analysis.

1. Adoption Levels and Trends

A majority of the mid-to-large firms studied have initiated some form of sustainability accounting, often beginning with environmental metrics such as energy consumption, emissions tracking, and water usage. Social and governance disclosures, however, were less developed and often limited to compliance with Indian laws or CSR obligations.

Table 1: Adoption of Sustainability Accounting Practices

(Based on sample of 20 Indian manufacturing firms)

Sustainability Metric	Firms Reporting (n=20)	Reporting Standard Used
Energy Consumption	18	BRSR, GRI
Water Usage	15	GRI, Internal ESG formats
Carbon Emissions	12	GRI, CDP
Waste Management	11	BRSR, ISO 14001
Labor Practices	9	Internal Reports, CSR Rules
Gender & Diversity Metrics	6	Voluntary Disclosures
Anti-Corruption Policies	5	Company Code of Conduct

This table shows that while environmental metrics are frequently captured, social and governance dimensions are relatively underrepresented, indicating an imbalanced approach to ESG accounting.

2. Motivating Factors

Participants highlighted several motivations for adopting sustainability accounting:

- **Regulatory Pressure:** The introduction of SEBI's BRSR format has increased compliance-driven reporting, especially among listed companies.
- **Investor Expectations:** Foreign investors, particularly ESG-aligned funds, demand transparency and robust reporting.
- **Reputation Management:** Firms view sustainability disclosures as a tool to enhance brand image and stakeholder trust.
- **Operational Efficiency:** Tracking environmental metrics has led to cost savings in energy and water consumption in some firms.

3. Barriers and Challenges

Despite growing awareness, many firms—particularly small and medium enterprises (SMEs)—face challenges:

- **Lack of Technical Expertise:** Many organizations lack trained personnel to manage ESG reporting.
- **Fragmented Data:** Firms often struggle to consolidate relevant sustainability data from different departments.

- **Resource Constraints:** SMEs cite the high cost of audits and certifications as a deterrent.
- **Low Awareness:** Sustainability accounting is often mistaken as synonymous with CSR, limiting its strategic potential.

Table 2: Key Barriers Faced by Indian Manufacturing Firms

Barrier	% of Respondents Identifying It (n=20)
Lack of Trained Professionals	75%
High Cost of ESG Reporting	60%
Fragmented Internal Data	55%
Low Awareness at Executive Level	45%
Resistance to Change	35%

These findings suggest that while the intent to adopt sustainability accounting is increasing, practical hurdles continue to limit comprehensive implementation.

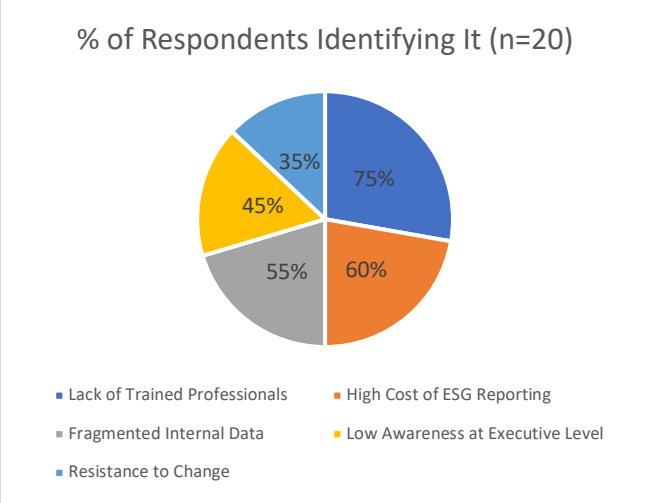

Fig. 3: Key Barriers Faced by Indian Manufacturing Firms

4. Integration into Business Strategy

Only a few firms reported integrating sustainability accounting into their core decision-making. These firms demonstrated practices such as:

- Linking emission targets to executive performance.
- Using sustainability KPIs in supplier selection.
- Including sustainability goals in product lifecycle planning.

However, in most cases, sustainability reports remained standalone documents disconnected from financial statements or operational dashboards. This gap weakens the potential of ESG accounting as a strategic driver.

5. Industry Differences and Case Insights

The study observed differences across industries:

- **Textiles and Chemicals** had higher reporting on water and waste due to regulatory mandates.
- **Automotive firms** focused more on energy efficiency and carbon emissions due to global supply chain requirements.
- **FMCG companies** showed interest in social metrics, especially related to labor welfare and diversity.

A notable example was a leading automotive firm that tied sustainability KPIs to their annual planning cycle. The firm had developed a sustainability committee, integrated ESG risk analysis into procurement, and aligned its sustainability strategy with global targets like the Science-Based Targets initiative (SBTi).

6. Discussion

These results illustrate a growing but uneven adoption of sustainability accounting across Indian manufacturing firms. While larger firms are proactively aligning with global standards, SMEs remain constrained by awareness, resources, and policy clarity. The fragmented approach to ESG reporting, with an overemphasis on environmental data, limits the holistic impact of sustainability accounting.

For sustainability accounting to evolve into a value-driven business function rather than a compliance formality, Indian firms must:

- Build internal ESG capacity.
- Embrace integrated reporting.
- Align non-financial metrics with business KPIs.
- Receive targeted support through policy incentives and sector-specific training programs.

Sustainability accounting in Indian manufacturing is at a critical inflection point. While the momentum is positive—driven by regulatory mandates and global stakeholder pressure—the depth and strategic alignment of these practices require significant strengthening. Without bridging the knowledge and resource gaps, especially in the SME segment, the broader goal of sustainable industrial transformation may remain out of reach.

Conclusion

Sustainability accounting is increasingly finding its place in the Indian manufacturing industry, a clear indicator of a broader trend of sustainable and transparent business practice. This study puts forward that while there has been an increasing awareness of environmental, social, and governance (ESG) responsibilities among manufacturers, the application of sustainability accounting remains patchy and widely disparate by firm size and sub-sectors.

Major industrial companies have started embracing global templates on sustainability, usually led by investors, regulatory imperatives like SEBI's BRSR, and international supply chain demands. Companies have made quantifiable strides in reporting energy consumption, greenhouse gas emissions, and waste elimination. Yet, the inclusion of social and governance metrics continues to be beyond reach, and sustainability data linkage to strategic business decisions remains limited in most instances.

Small and medium-sized enterprises (SMEs), which constitute the core of the manufacturing sector of India, face extreme difficulties in embracing sustainability accounting. These are: insufficient financial and technical resources, absence of trained personnel, disjointed data systems, and negligible policy backing. Unless specific interventions are initiated, these gaps will persist to impede large-scale pickup and restrict the contribution of sustainability reporting in driving meaningful change.

Going forward, Indian manufacturing firms must bring sustainability accounting into their core operations—not merely a compliance exercise but as a tool of risk management, operational efficiency, and value creation in the long run. It has to be a multi-faceted approach: industry sector-specific report guidelines, robust training and capacity building efforts, incentives to pioneers, and greater coordination among government, industry associations, and academia.

In short, sustainability accounting can render the Indian manufacturing industry a responsible, competitive, and proactive player in national and international sustainability goals. However, the fulfillment of such potentialities relies on systemic support, organizational cultural change, and an integrated system that supports intentions with tangible actions.

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