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GREEN COST MANAGEMENT IN INDIA: REDEFINING COST STRUCTURES FOR SUSTAINABLE BUSINESS

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ABSTRACT

The growing emphasis on sustainability has compelled businesses worldwide to reassess traditional managerial and cost accounting practices. In India, rapid industrialisation, resource constraints, and increasing regulatory and stakeholder pressures have exposed the limitations of conventional cost management systems that largely ignore environmental costs. Most Indian firms continue to treat such costs as indirect or compliance-related expenditures, resulting in distorted cost information and short-term decision-making. This conceptual research paper examines Green Cost Management (GCM) as a strategic managerial accounting approach that integrates environmental considerations into cost structures and internal decision-making processes. Drawing on strategic cost management, stakeholder theory, and institutional theory, the study develops an India-centric conceptual framework that explains how green cost management can redefine cost structures to support sustainable business performance. The paper analyses the role of regulatory frameworks, cost sensitivity, and the dominance of MSMEs in shaping green cost management practices in India. It contributes to existing literature by shifting the focus from environmental reporting to internal cost structure redesign and offers managerial and policy implications for promoting sustainable cost management practices in Indian enterprises. The study concludes by outlining future research directions for empirical validation and sectoral analysis.

KEYWORDS: Green Cost Management; Sustainable Business; Cost Structure Redesign; Indian Enterprises; Environmental Costs; Strategic Cost Management

I) INTRODUCTION

India's economic growth over the past three decades has been accompanied by rapid industrialisation, expanding urban markets, and rising consumption levels. While this growth has strengthened India's global economic position, it has simultaneously intensified environmental challenges, including energy scarcity, water stress, industrial pollution, and waste accumulation. Indian enterprises today operate in a business environment where environmental responsibility is no longer peripheral but



increasingly intertwined with cost competitiveness, regulatory compliance, and long-term viability.

Traditionally, cost management systems in Indian organisations have been designed with a primary emphasis on cost control, efficiency improvement, and short-term profitability. Manufacturing firms have focused on reducing direct material and labour costs, while service-sector organisations have concentrated on overhead rationalisation. Environmental costs such as excessive energy consumption, water wastage, waste disposal, emission control, and regulatory penalties have largely been treated as unavoidable overheads or statutory burdens. As a result, these costs remain hidden within aggregate expense categories, limiting managerial visibility and weakening strategic decision-making.

For instance, an Indian manufacturing unit operating in an energy-intensive sector may incur high electricity costs due to inefficient machinery or outdated processes. When such costs are absorbed into general factory overheads, management often responds by negotiating power tariffs or cutting labour costs rather than addressing the root cause—energy inefficiency. Similarly, in the FMCG sector, expenses related to packaging waste management or compliance with Extended Producer Responsibility (EPR) norms are frequently viewed as compliance costs rather than strategic cost drivers capable of influencing product design and supply chain decisions.

The limitations of traditional cost management become even more pronounced in the context of Indian MSMEs, which constitute a significant portion of the industrial base. MSMEs typically operate under severe cost constraints and limited access to capital, leading them to perceive sustainability initiatives as cost-intensive obligations rather than opportunities for efficiency enhancement. However, empirical observations suggest that poor waste management, excessive material consumption, and inefficient resource use often increase operating costs over time, undermining the very cost competitiveness these firms seek to preserve.

In recent years, regulatory developments and stakeholder expectations have further exposed the inadequacy of conventional cost systems. Indian firms are increasingly required to comply with environmental regulations, sustainability disclosures, and ESG-related expectations from investors, customers, and global supply chains. Compliance-driven approaches, however, tend to result in reactive cost behaviour where environmental expenditures are incurred only to meet minimum standards—rather than proactive cost optimisation.

Against this backdrop, **Green Cost Management (GCM)** emerges as a strategic managerial accounting approach that integrates environmental considerations into internal cost systems and decision-making processes. Unlike environmental accounting, which primarily focuses on external reporting and compliance, green cost management emphasises the identification, measurement, and



strategic management of environmental costs within organisational cost structures. By redefining cost pools and cost drivers to reflect environmental impacts, green cost management enables managers to make informed decisions regarding process improvements, technology investments, and sustainable resource utilisation.

In the Indian context, where businesses are highly cost-sensitive and operate under diverse regulatory and infrastructural conditions, the adoption of green cost management has significant strategic implications. Proper identification of energy, water, waste, and emission-related costs can transform sustainability initiatives from perceived financial burdens into sources of long-term cost savings and competitive advantage. However, despite its relevance, academic research on green cost management in India remains limited, particularly with respect to its role in **restructuring internal cost systems rather than merely supporting sustainability reporting**.

This paper addresses this gap by conceptualising green cost management as a mechanism for redefining cost structures in Indian enterprises. It argues that integrating environmental considerations into managerial cost systems is essential for achieving sustainable business performance in an emerging economy like India. By adopting a conceptual and theory-driven approach, the study seeks to contribute to sustainability accounting literature while offering practical insights for Indian managers and policymakers.

II) REVIEW OF LITERATURE

Research on sustainability and accounting has expanded considerably over the last two decades, reflecting growing concerns about environmental degradation and corporate responsibility. Early studies on environmental accounting primarily focused on the identification and disclosure of environmental expenditures, pollution-related costs, and compliance with regulatory standards. These studies largely viewed environmental costs as externalities that needed to be reported for accountability purposes rather than managed as strategic internal cost drivers.

a) Environmental Accounting and Sustainability Reporting:

Significant stream of literature has examined environmental accounting in the context of sustainability reporting and corporate social responsibility. International studies have highlighted the role of environmental disclosures in improving corporate transparency and stakeholder confidence. However, these studies largely adopt a **financial reporting orientation**, emphasising compliance, legitimacy, and reputational benefits. The internal managerial use of environmental cost information remains underexplored in this body of research. In the Indian context, sustainability-related studies have predominantly analysed disclosure practices, ESG reporting quality, and regulatory compliance. Empirical evidence suggests that Indian firms often adopt sustainability reporting in response to



regulatory pressure or global supply chain requirements. While such disclosures enhance external accountability, they offer limited insights into how environmental costs influence internal cost structures and managerial decisions.

b) Environmental Costing and Managerial Accounting Tools:

Another strand of literature focuses on environmental costing techniques such as activity-based costing, life-cycle costing, and full-cost accounting. These studies argue that traditional costing systems fail to capture indirect and hidden environmental costs, leading to inefficient resource allocation. While these techniques provide methodological tools for identifying environmental costs, much of the existing research treats them as **add-ons to conventional costing systems** rather than as catalysts for fundamental cost structure redesign. Moreover, most empirical applications of environmental costing are based on developed economy contexts with advanced data availability and strong regulatory enforcement. The transferability of these models to emerging economies like India—where data limitations, cost sensitivity, and institutional constraints prevail—remains insufficiently examined. This limits the practical relevance of existing environmental costing research for Indian enterprises.

c) Strategic Cost Management and Sustainability Integration:

Strategic cost management literature emphasises the role of cost systems in achieving long-term competitive advantage. Studies in this domain highlight how cost drivers, value chain analysis, and process optimisation can support strategic positioning. However, sustainability considerations are often treated as peripheral or external constraints rather than integral elements of strategic cost management. Recent international research has begun to explore the intersection of strategic cost management and sustainability, suggesting that environmentally responsible practices can lead to long-term cost efficiency. Nevertheless, these studies frequently focus on isolated sustainability initiatives rather than examining how sustainability fundamentally reshapes cost structures and cost behaviour across organisational functions.

d) Indian Studies on Sustainability and Cost Management:

Indian academic literature on sustainability has largely concentrated on environmental regulation, corporate governance, and disclosure practices. Studies addressing cost management in India continue to emphasise traditional tools such as standard costing, budgetary control, and variance analysis. There is limited integration of sustainability considerations into mainstream cost management research. Where environmental costs are discussed, they are often framed as compliance costs or ethical responsibilities rather than as strategic variables influencing cost structures. Additionally, the dominant presence of MSMEs in India—with their unique cost constraints and informal processes—has not been adequately reflected in existing sustainability and cost management studies



➤ Research Gap and Positioning of the Present Study

A critical review of the literature reveals three major gaps.

First, existing research predominantly adopts a **reporting and compliance perspective**, overlooking the role of environmental costs in internal managerial decision-making. Second, environmental costing studies rarely examine how environmental considerations lead to a **structural reconfiguration of cost systems**, particularly in cost-sensitive environments. Third, there is a distinct lack of **India-centric conceptual frameworks** that account for the regulatory, institutional, and organisational realities of Indian enterprises, especially MSMEs.

Accordingly, this study addresses an important gap by conceptualising **Green Cost Management** as a strategic managerial accounting approach that goes beyond environmental reporting and isolated costing techniques. By focusing on the **redefinition of cost structures** rather than mere cost identification, the paper contributes to sustainability accounting and strategic cost management literature from an Indian perspective. The proposed framework offers a foundation for future empirical research and policy-oriented discussions on sustainable cost management practices in emerging economies.

III) Research Objectives

1. To analyse the limitations of traditional cost management systems in addressing sustainability challenges faced by Indian enterprises.
2. To conceptualise green cost management within the Indian economic, regulatory, and organisational context.
3. To propose a framework for redefining cost structures through green cost management practices.
4. To examine the managerial and policy implications of green cost management for sustainable business in India.

IV) Theoretical Framework

The study is grounded in three interrelated theoretical perspectives.

- **Stakeholder Theory:** suggests that firms must address the expectations of multiple stakeholders, including regulators, communities, and environmental groups. Green cost management enables firms to incorporate these expectations into internal decision-making.
- **Institutional Theory** explains how regulatory pressures, norms, and professional standards influence organisational practices. In India, environmental regulations and sustainability reporting frameworks act as institutional drivers for adopting green cost management.
- **Strategic Cost Management Theory** views cost systems as tools for achieving long-term competitive advantage rather than merely controlling expenses. From this perspective, green cost management becomes a strategic mechanism for aligning cost structures with sustainability



objectives.

V) Redefining Cost Structures through Green Cost Management: Regulatory, Managerial, and Policy Perspectives in India:

➤ Regulatory Perspective in India:

Indian enterprises operate within an increasingly stringent environmental regulatory framework that significantly influences cost structures. Legislation such as the Environmental Protection Act, 1986, Extended Producer Responsibility (EPR) regulations, and sustainability disclosure requirements mandated by the Securities and Exchange Board of India (SEBI) have heightened the financial consequences of environmental non-compliance. Despite this, many organisations continue to absorb environmental compliance costs—such as pollution control, waste management, and reporting expenditures into general overheads, limiting cost transparency.

Green cost management enables firms to explicitly identify and allocate regulatory-related environmental costs within internal cost systems. By internalising regulatory requirements into managerial accounting, firms can move beyond a reactive compliance approach and adopt a proactive cost management strategy. This regulatory integration allows organisations to anticipate policy changes, minimise penalty risks, and improve compliance efficiency while maintaining cost competitiveness.

➤ Managerial Perspective in India:

From a managerial standpoint, green cost management enhances decision-making by revealing the linkages between environmental performance and financial outcomes. Traditional cost accounting systems often obscure costs related to energy inefficiencies, excessive resource consumption, and waste generation, thereby weakening managerial accountability. By restructuring cost pools to include environmental dimensions, managers gain more accurate cost information to support operational and strategic decisions.

The explicit identification of environmental costs enables Indian managers to evaluate investments in energy-efficient technologies, waste reduction initiatives, and sustainable process redesign based on their long-term cost implications. This approach supports a shift in managerial mind-set from viewing sustainability as a cost burden to recognising it as a source of efficiency gains, risk reduction, and competitive advantage, particularly in price-sensitive Indian markets.

➤ Policy Perspective in India:

At the policy level, the successful adoption of green cost management in India depends on institutional support, standardisation, and capacity building. While regulatory mandates encourage environmental



compliance, the absence of clear guidelines for integrating environmental costs into cost accounting systems limits effective implementation, especially among micro, small, and medium enterprises (MSMEs).

Policymakers can facilitate adoption by developing sector-specific green costing frameworks, offering financial and non-financial incentives, and simplifying reporting requirements. Professional accounting bodies, such as the Institute of Chartered Accountants of India and the Institute of Cost Accountants of India, can play a pivotal role by incorporating green cost management into professional education, certification programmes, and practice standards. Such coordinated policy and institutional efforts are essential for mainstreaming green cost management across Indian industries.

VI) Suggestion:

Based on the findings of the study, the following suggestions are offered for Indian enterprises, policymakers, and professional institutions:

1. Integration of Environmental Costs into Cost Accounting Systems:

Indian enterprises should incorporate environmental costs directly into their cost accounting frameworks rather than treating them as general overheads. The creation of separate environmental cost pools and the identification of appropriate cost drivers related to energy use, waste generation, and water consumption can improve cost accuracy and support informed managerial decisions.

2. Strategic Orientation of Green Cost Management:

Green cost management should be viewed as a strategic cost management approach rather than a regulatory compliance exercise. Environmental cost information should be systematically used in capital investment decisions, pricing strategies, and process evaluation to enhance long-term sustainability and financial performance.

3. Strengthening Professional Competence and Training:

There is a need to enhance professional knowledge and skills related to green cost management. Accounting bodies, academic institutions, and training organisations should incorporate sustainability-oriented cost management concepts into formal education, professional certification, and executive development programmes.

4. Policy Support and Framework Development:

Policymakers should provide supportive institutional frameworks to encourage the adoption of green cost management practices. The development of sector-specific guidelines, along with simplified reporting and incentive mechanisms, can facilitate wider implementation, particularly among micro, small, and medium enterprises.

5. Use of Digital Tools for Environmental Cost Analysis:

Indian enterprises should utilise digital technologies such as ERP systems, data analytics tools, and



cost dashboards to systematically record and analyse environmental cost data. Digital integration can enhance cost visibility, monitoring, and timely decision-making.

6. Promotion of Empirical Research and Industry Academia Collaboration:

Future research should focus on the empirical examination of green cost management practices across different industrial sectors in India. Collaboration between academic researchers and industry practitioners can generate practical insights and contribute to the development of context-specific and evidence-based green costing frameworks.

VIII) CONCLUSION

This study set out to examine green cost management as a strategic managerial accounting approach capable of redefining cost structures in Indian enterprises. Drawing on sustainability accounting literature, strategic cost management theory, and the Indian regulatory context, the paper argues that traditional cost management systems—largely focused on short-term efficiency and compliance—are increasingly inadequate in addressing contemporary sustainability challenges. The discussion demonstrates that environmental costs, when treated as aggregated overheads, obscure inefficiencies and constrain informed managerial decision-making.

By conceptualising green cost management as an internal cost structure redesign mechanism, this paper contributes to existing literature by shifting the analytical focus from environmental reporting to managerial cost behaviour and strategic cost visibility. The proposed approach highlights how explicit identification and allocation of energy, waste, water, and pollution-related costs enable Indian firms to align sustainability objectives with long-term cost optimisation and competitiveness. This is particularly relevant in the Indian context, where energy intensity, cost sensitivity, and regulatory pressures coexist with growing stakeholder expectations.

The discussion further underscores the role of India’s regulatory and policy environment in shaping green cost management practices. While environmental regulations and sustainability reporting requirements act as external drivers, their effectiveness depends on how firms internalise these requirements within managerial accounting systems. Proactive adoption of green cost management allows organisations to move beyond reactive compliance, reduce regulatory risks, and improve operational resilience—especially for firms operating within global supply chains.

From a managerial perspective, the findings emphasise that green cost management enhances cost transparency and supports strategic investment decisions in sustainable technologies and process improvements. From a policy standpoint, the study highlights the need for institutional support, professional capacity building, and standardisation of green costing practices, particularly for MSMEs that face significant resource and skill constraints.



As a conceptual study, this paper provides a theoretical foundation for future empirical research. Subsequent studies may test the proposed framework through industry-specific case analyses, survey-based investigations, or comparative studies across firm sizes and sectors. Further research could also explore the integration of green cost management with digital technologies and ESG performance measurement in Indian enterprises.

In conclusion, green cost management should be viewed not merely as an environmental or compliance-oriented practice but as a strategic cost management imperative for sustainable business in India. By redefining cost structures to reflect environmental realities, Indian enterprises can achieve a more balanced integration of economic performance, regulatory compliance, and environmental responsibility.

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