Green Accounting and Reporting as Drivers of Sustainable Growth in Emerging Markets

- Gaur A V.*, Bhavsar B. R.**
*Research Scholar, **Assistant Professor,
Ashoka Center for Business and Computer Studies, Nashik
Savitribai Phule Pune University, Pune

Green Accounting (environment accounting) integrates environmental costs and benefits in financial records, evaluating pollution control, natural resource usage, renewable energy and stability investment. Green reporting refers to the disclosure of such information through stability, integrated, or CSR report, covers areas such as carbon emissions, energy and water use, waste management and social impacts. Rapid industrialization definitely lead to development but also environmental decline, this offers challenges for sustainable development in emerging markets. This research examines the role of green accounting and green reporting in supporting growth and development in emerging markets by increasing transparency, improving decision making and strengthening accountability. Adopting to these practices is inconsistent, mainly due to insufficient regulatory compliances, limited institutional capacity and inadequate resources. However, implementing the green accounting and reporting can attract investment, increase reputation, and the United Nations can facilitate alignment with international purposes including Sustainable Development Goals (SDG). Research concludes that green accounting and reporting are strategic drivers of long -term competition, flexibility and inclusive growth, which are important in emerging markets, emphasizing regulation, market pressure and institutional support.

Key Words : Green Accounting, Emerging Markets, Sustainability Reporting

1. Green Accounting

Green accounting, also known as environmental accounting, incorporates environmental costs and benefits into financial decision-making. It evaluates the impacts of activities such as pollution control, renewable energy investment, and efficient resource management. In emerging markets, it helps balance rapid industrial growth with ecological sustainability, ensuring that long-term development does not compromise natural resources.

2. Sustainability Reporting

Sustainability reporting refers to the disclosure of environmental, social, and governance (ESG) performance by organizations. Frameworks like the **Global Reporting Initiative (GRI)**, **Integrated Reporting (IR)**, and **Business Responsibility and Sustainability Report (BRSR)** guide companies in sharing their contributions to climate action, social equity, and ethical governance. Such reporting builds transparency, strengthens reputation, and attracts global investment.

3. Emerging Markets

Emerging markets such as India, Brazil, South Africa, and Indonesia are experiencing rapid industrialization but face regulatory and institutional challenges. Green accounting and reporting are vital here to ensure growth that is both inclusive and environmentally responsible. Adoption of global sustainability standards in these regions not only enhances competitiveness but also ensures alignment with the **Sustainable Development Goals (SDGs)**.

4. ESG (Environmental, Social, and Governance)

ESG represents the non-financial dimensions of business performance. The **environmental** aspect covers emissions and resource use; the **social** dimension addresses labor rights and community impact; and **governance** reflects transparency and accountability. In emerging economies, ESG disclosure is becoming a key factor in investment decisions and supply chain participation.

Objectives

1. To evaluate how mandatory versus voluntary regulatory frameworks influence emerging economies' (India, Brazil, South Africa, and Indonesia) adoption of green accounting and reporting practices.
2. To assess the impact of institutional and market forces on adoption, even in nations with voluntary regimes.

Hypotheses

1. Countries with required regulatory systems have higher adoption rates of green accounting and reporting than those with voluntary regimes.
2. Market and institutional factors significantly influence adoption, even in the absence of severe restrictions.

Statement of the Problem

Although green accounting has been extensively studied in developed countries, its adoption in emerging markets has been inconsistent and uncommon. This is due to a variety of factors, including a widespread misunderstanding, inefficient regulations, high costs, and a scarcity of essential competencies, all of which hinder its successful implementation. If they don't use sustainable methods, emerging economies risk growth that is harmful to the environment as well as to society.

Literature Review

1. Sinha & Mehta (2018): Green accounting is essential for developing nations due to climate sensitivity and reliance on natural resources.[1]
2. Freeman (1984): Through Stakeholder Theory, firms disclose environmental information to meet stakeholder expectations.[2]

3. Suchman (1995): Legitimacy Theory suggests that sustainability reports help maintain public trust and a firm's social license to operate.[3]
4. DiMaggio & Powell (1991): Institutional Theory explains how global norms like GRI and ISSB spread reporting practices internationally.[4]
5. Elkington (1997): Triple Bottom Line framework balances economic, social, and environmental performance.[5]

This literature highlights that reporting practices in emerging markets are influenced by regulation, institutional pressures, and stakeholder demand.

Research Methodology

1. Sources of Data collection

Primary Sources:

- Corporate case studies (India: Tata Steel, Infosys, Reliance; Brazil: Petrobras, Natura; South Africa: Sasol, Vodacom; Indonesia: Pertamina, BRI).
- Official disclosures (Annual Reports, ESG & CSR Reports).

Secondary Sources:

- Peer-reviewed journals and scholarly books.
- Reports from World Bank, IMF, OECD, UNEP, GRI.
- Government regulations (SEBI–India, OJK–Indonesia, JSE–South Africa, B3–Brazil).
- Online databases: Scopus, Web of Science, Google Scholar.

2. Strategies for Gathering Information

- Literature Reviews: Investigating theoretical frameworks and conclusions derived from various **empirical investigations.**
- Documentation Analysis: Arrangement of environmental, social, and governance data extracted from corporate and state records.
- Countries Evaluation: Assessment across various countries.

3. Methods for Analysing Data

- **Scrutiny**: Appraising the extent of environmental, social, and governance element visibility within the disclosed data.
- Discovery of Core Topics: Pinpointing major challenges and possible opportunities.
- Comparative Research: Assessing differences in the execution and impact of regulatory measures.
- Trend Examination: Analysing data from yearly publications to track progress over time.

3. Accuracy

- Accuracy is confirmed via sources subjected to expert review and reputable global organizations.

5. Moral and Ethical Factors

- Giving appropriate credit to all resources utilized.
- Exclusively utilizing information available to the general population.

Data Analysis

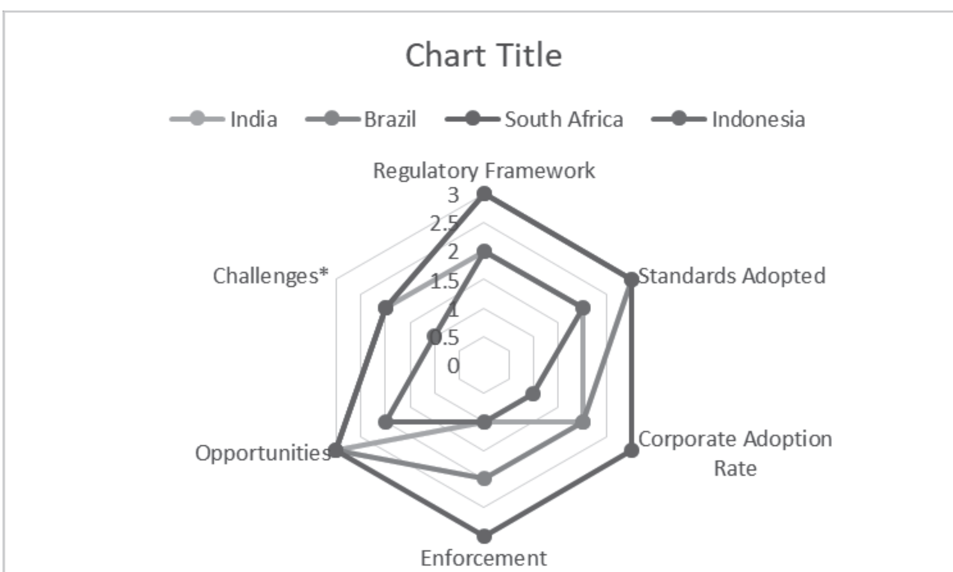
Parameter	India	Brazil	South Africa	Indonesia
Regulatory Framework	SEBI BRSR (mandatory for top 1,000 firms)	B3 "Report or Explain" (voluntary)	King Code IV, integrated reporting (quasi-mandatory)	OJK POJK 51/2017 (mandatory for FIs & listed firms)
Standards Adopted	BRSR mapped to NGRBC; GRI adoption growing; ISSB alignment	GRI widely used; voluntary	GRI widely used; integrated reporting	GRI with OJK guidance
Corporate Adoption Rate	High	Medium–High	Very High	Medium–High
Type of Reports	Standalone BRSR, some integrated	Sustainability/ integrated	Integrated	Sustainability, some integrated
Disclosure Focus	ESG KPIs: GHG, energy, water, waste	Climate, SDGs	Multi-capital, ESG	Emission reductions, environmental finance
Enforcement & Monitoring	SEBI, BSE/ NSE	B3 program; market discipline	JSE, IRCSA	OJK/IDX
Institutional Support	SEBI, MCA, industry bodies	B3, GRI network	JSE, Big-4 advisors	OJK, GRI networks
Market Pressure	Rising ESG funds, supply-chain demands	Investor & trade pressures	High investor & global standards	Growing investor & lender pressure
Challenges	Assurance capacity, SME coverage	Uneven depth, weak assurance	Resource-intensive, sector disparity	Limited capacity outside finance
Opportunities	ESG capital, ISSB harmonization	SDG alignment, investor access	Leadership in integrated reporting	Expand beyond mandated sectors

Parameter	India	Brazil	South Africa	Indonesia
Case Examples	Tata Steel, Infosys, Reliance, HUL	Petrobras, Vale, Itaú, Natura	Sasol, Nedbank, Vodacom	BRI, Bank Mandiri, Telkom, Pertamina
Maturity Level	High	Medium–High	High	Medium

Parameter (Adoption)	India	Brazil	South Africa	Indonesia
Corporate Coverage	High — BRSR mandatory for top 1,000 listed firms; widespread compliance (arbor.eco, snowkap.com, India Briefing)	Medium–High — Voluntary, but widespread among large firms (KPMG reports ~90%)	High — Integrated reporting mandatory since 2010 (Wikipedia)	Medium — Growing but still limited to large or state-led firms
Sectoral Spread	Medium — Predominantly large corporates across key sectors (energy, finance)	Medium–High — Broader sectoral uptake among large companies	High — Across industries due to regulation	Low–Medium — Limited to key industries (mining, forestry)
Standards Used	Medium — BRSR aligned with global norms; still evolving to GRI/IFRS	Medium — Many use GRI, but not standardized nationally	High — King III mandates integrated reporting, broadly aligned	Low–Medium — Ad-hoc; GRI adoption by few multinational firms
Depth of Reporting	High — Data-rich, with ESG metrics, Scope 1/2 emissions, assurance evolving (CFA Institute, The Hindu Business Line)	Medium — Some comprehensive disclosures by major firms	High — Integrated reporting is detailed and mandatory	Low–Medium — Often superficial or qualitative disclosures
Verification & Assurance	Medium — Assurance required progressively (top 150 → 1000 listing) (The Hindu Business Line, arbor.eco)	Medium — Some reports are third-party assured	High — Assurance generally integrated through JSE requirements	Low — Rare external assurance reported

Trend Over Time	High — Rapid improvement driven by regulatory timelines (Reuters, arbor.eco)	Medium — Steady rise but no strong mandates	High — Long-term upward trend since 2010 mandate	Low–Medium — Modest growth, inconsistent

Parameter	India	Brazil	South Africa	Indonesia
Regulatory Framework	2	3	3	2
Standards Adopted	2	3	3	2
Corporate Adoption Rate	2	2	3	1
Enforcement	1	2	3	1
Opportunities	3	3	3	2
Challenges*	2	2	2	1



Comparative Analysis of Reporting Practices

India:

India has witnessed significant progress in the field of green accounting and sustainability reporting, particularly with the mandatory Business Responsibility and Sustainability Report (BRSR) introduced by the Securities and Exchange Board of India (SEBI) for the top 1,000 listed companies. This mandate has ensured high compliance and expanded the scope of reporting beyond voluntary disclosures. The BRSR is aligned with the National Guidelines on Responsible Business Conduct (NGRBC) and is gradually being harmonized with international frameworks such as the Global Reporting Initiative (GRI) and the International Sustainability Standards Board (ISSB).[6]

Despite these advances, challenges remain—particularly for small and medium enterprises (SMEs) that face resource constraints, lack of trained professionals, and difficulty in implementing ESG assurance processes. Nevertheless, India's structured regulatory approach places it ahead of many emerging markets in terms of maturity of reporting.

Brazil:

Brazil adopts a voluntary "report or explain" framework through its stock exchange Brasil Bolsa Balcão (B3). This policy encourages companies to either publish sustainability reports or explain the absence of such disclosures. As a result, adoption rates are medium to high, especially among large corporations and multinationals that are under strong pressure from global investors and trade partners.[7]

The Global Reporting Initiative (GRI) is the most widely adopted standard in Brazil, and many firms link their disclosures with the UN Sustainable Development Goals (SDGs). However, there are still significant gaps in terms of reporting depth, external assurance, and consistency across industries. Smaller firms often fail to participate due to cost and capacity barriers. Overall, Brazil shows steady improvement but remains dependent on market and investor pressures rather than strict regulation.

South Africa:

South Africa is often considered a global pioneer in integrated reporting. The adoption of the King IV Code of Corporate Governance (2016) and requirements of the Johannesburg Stock Exchange (JSE) make integrated reporting quasi-mandatory for listed firms.[8] This system requires companies to disclose across multiple forms of capital—financial, human, social, manufactured, and natural—creating a holistic approach to accountability.

Adoption rates are very high, with most listed firms complying with integrated reporting requirements. South Africa's model has received global recognition for its comprehensiveness, depth, and influence on sustainability reporting practices elsewhere. The primary challenge, however, lies in the resource intensity of such reporting, as smaller organizations find it costly and time-consuming. Despite this, South Africa sets an international benchmark for ESG disclosure quality and assurance.

Indonesia:

Indonesia has taken a regulatory route by mandating sustainability reporting through OJK Regulation POJK 51/2017, which applies to financial institutions, issuers, and public companies. This has resulted in moderate compliance levels, particularly in the financial and banking sectors.[9] The majority of Indonesian companies adopt the GRI framework, often with additional guidelines issued by the Otoritas Jasa Keuangan (OJK).

While reporting has expanded significantly since 2017, the adoption remains uneven across industries. Outside the finance sector, many companies provide only basic or qualitative disclosures. Barriers such as limited expertise, lack of assurance mechanisms, and insufficient institutional support continue to slow progress. Nonetheless, Indonesia's regulatory commitment indicates a strong potential for further growth, provided capacity building and training efforts are scaled up.

Findings

1. Legal Mandates: Compulsory frameworks, such as those present in India, Indonesia, and South Africa, reveal a substantial correlation with higher degrees of application when compared to voluntary systems. Even adaptable guidelines, such as the King IV code in South Africa, result in noteworthy compliance.
2. Investor Expectations and Market Forces: When formal mandates are absent, the dynamics of the market and the expectations of investors gain substantial importance. Predominant companies in Brazil adhere to globally recognized standards like GRI and SDGs, predominantly as a response to these prevailing factors.
3. Universal Obstacles: Substantial expenses related to enacting modifications, a scarcity of proficient individuals, insufficient protocols for ensuring proper execution, and infrastructural deficiencies constitute widespread challenges, particularly for enterprises of small to medium scale.
4. Temporal Progression of Implementation: The gathered information indicates that the pace of implementation is accelerating across all four investigated markets. The evolutionary path of India, transitioning from BRR to BRSR and subsequently to BRSR Core, illustrates a growing emphasis on responsibility. The inclination of Brazil towards the SDGs, South Africa's steady dominance, and Indonesia's progressive advancement observed post-2017 collectively signify optimistic trajectories.

Conclusion

Green accounting and sustainability reporting in developing nations such as India, Brazil, South Africa, Indonesia, depends significantly on both regulatory actions as well as **market dynamics. Despite a generally positive trend, there continue**s to be major variations in the accuracy and consistency of reporting. Addressing challenges pertaining to expenses, improving professional skills, and perfecting the assurance systems are all essential. Enhancing the capacity of organizations and adhering to global standards **will ensure that sustainability reports have a role in increasing both the ability to sustainable development and competition.**

Future Research Directions

1. Collecting Primary **Data: To gain in-depth knowledge, combine interviews and questionnaires with officials, government officials, and financial contributors.**
2. Longitudinal Research: To understand how frameworks and industry-specific practices evolve, analyse trends across several years.
3. Broader Research Parameters: Extend research to include a larger range of nations and studies that are focused on certain industries, such as energy, apparel, or manufacturing.
4. Consistent Evaluation Methods: Develop grading systems that allow for fair

evaluation and comparison of acceptance levels.

5. Evaluation of Outcomes: Examine the actual effects of ecology in the real world.

References

1. Sinha, D., & Mehta, P. (2018). *Green Accounting in Developing Economies: Challenges and Opportunities.* Journal of Environmental Economics.
2. Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach.* Pitman Publishing.
3. Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review, 20*(3), 571–610.
4. DiMaggio, P. J., & Powell, W. W. (1991). *The New Institutionalism in Organizational Analysis.* University of Chicago Press.
5. Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business.* Capstone.
6. EcoVadis. (2023). *India's Business Responsibility and Sustainability Reporting (BRSR).* Retrieved from https://ecovadis.com
7. KPMG. (2023). *SEBI introduces key changes in BRSR reporting.* Retrieved from https://home.kpmg
8. Institute of Directors Southern Africa (IoDSA). (2016). *King IV Report on Corporate Governance for South Africa.* Johannesburg: IoDSA.
9. OJK. (2017). *Implementation of Sustainable Finance for Financial Institutions and Listed Companies.* Jakarta: OJK.
10. EY. (2023). *BRSR reporting and the evolving ESG landscape in India.* Retrieved from https://ey.com