Advanced International Journal for Research (AIJFR)
E-ISSN: 3048-7641 ● Website: www.aijfr.com ● Email: editor@aijfr.com

The Impact of Environmental Accounting Practices on Financial Performance: Evidence from Indian Listed Companies

Jyoti Kumari[1], Dr. Sumit Chandra[2]

[1]Research Scholar, Department of Commerce, Government Degree College, Agra Cantt (DBRAU), Agra
[2]Associate Professor, Department of Commerce, Government Degree College, Agra Cantt (DBRAU), Agra

Abstract

The growing global emphasis on sustainability and responsible corporate behaviour has positioned environmental accounting as a vital tool for measuring, managing, and reporting environmental costs and impacts. In India, regulatory developments such as the Securities and Exchange Board of India's (SEBI) mandate on Business Responsibility and Sustainability Reporting (BRSR) have significantly increased pressure on listed firms to disclose their environmental performance. Despite these developments, the empirical link between environmental accounting practices (EAP) and financial performance remains underexplored in the Indian context. This study examines the impact of environmental accounting practices on the financial performance of Indian listed companies from 2017 to 2024. Using content analysis of annual and sustainability reports, an Environmental Accounting Practices Index (EAPI) is constructed to capture the extent and quality of environmental disclosures. Financial performance is assessed using indicators such as Return on Assets (ROA), Return on Equity (ROE), Earnings per Share (EPS), and Tobin's Q. Panel regression analysis is employed to examine the association between EAPI and financial performance, controlling for firm size, age, leverage, and industry type. Preliminary findings suggest a positive relationship between higher environmental accounting disclosure and improved financial performance, with stronger effects observed in energy-intensive and manufacturing sectors compared to service-oriented firms. This paper contributes to the literature by providing empirical evidence from an emerging economy and offers policy insights for strengthening sustainability disclosures in India.

Keywords: Environmental Accounting, Financial Performance, ESG, BRSR, India, Listed Companies.

1. Introduction

1.1 Background

Over the past two decades, environmental concerns have moved from the margins to the mainstream of corporate governance and financial decision-making. Climate change, resource depletion, and rising environmental costs have compelled businesses worldwide to reconsider traditional approaches to accounting and reporting. Environmental accounting, sometimes referred to as "green accounting" or "sustainability accounting," extends beyond conventional financial reporting by recognizing

environmental costs, liabilities, and resource usage in business operations. By doing so, it helps organizations align with broader sustainability goals while also improving stakeholder trust.

In India, the increasing adoption of sustainability practices is driven by both regulatory pressure and market demand. The introduction of the Business Responsibility and Sustainability Report (BRSR) by SEBI in 2021 marked a turning point in corporate disclosures, making it mandatory for the top 1,000 listed companies to report on their environmental, social, and governance (ESG) performance. With investors, regulators, and consumers showing heightened awareness of environmental issues, companies face growing expectations to integrate environmental information into their reporting frameworks. However, the key question remains: does investing in environmental accounting practices translate into tangible financial benefits for firms, or is it merely a compliance cost?

1.2 Problem Statement

While environmental accounting has been widely discussed in the global academic literature, evidence from developing countries, such as India, remains limited. Most studies focus on developed economies where sustainability regulations and reporting standards are more established. In the Indian context, where regulatory frameworks are evolving and corporate responses are heterogeneous, it is unclear whether environmental accounting practices lead to improved financial performance. This gap calls for an empirical investigation that considers sectoral variations, disclosure quality, and financial outcomes.

1.3 Research Objectives

The study aims to investigate the relationship between environmental accounting practices and financial performance among listed companies in India. The specific objectives are:

1. To examine the extent and quality of environmental accounting disclosures in Indian listed firms.
2. To construct an Environmental Accounting Practices Index (EAPI) based on disclosure content analysis.
3. To analyse the relationship between environmental accounting practices and financial performance indicators such as ROA, ROE, EPS, and Tobin's Q.

1.4 Significance of the Study

This research holds significance for multiple stakeholders:

- **For companies**, it provides evidence on whether environmental accounting enhances financial returns and long-term competitiveness.
- **For investors**, it offers insights into the reliability of sustainability disclosures as indicators of financial stability and growth.
- **For policymakers and regulators**, it highlights the effectiveness of current disclosure frameworks like BRSR and provides suggestions for strengthening them.
- **For academia**, it contributes empirical evidence from an emerging economy context, addressing a notable gap in existing literature.

2. Literature Review

2.1 Concept of Environmental Accounting

Environmental accounting, often referred to as green accounting, is the process of identifying, measuring, and disclosing the costs and benefits associated with environmental protection, resource usage, and

sustainability practices (Schaltegger & Burritt, 2010). Unlike traditional accounting, which focuses solely on financial transactions, environmental accounting incorporates ecological and social dimensions into corporate reporting. It encompasses direct costs such as waste treatment, pollution control, and energy efficiency, as well as indirect costs like reputational risk and regulatory penalties.

In India, environmental accounting is gaining recognition due to the growing regulatory emphasis on sustainability disclosures and the adoption of the Business Responsibility and Sustainability Report (BRSR) framework mandated by SEBI. However, practices remain uneven, with leading firms in sectors such as IT and energy showing more maturity, while smaller firms lag behind.

2.2 Theoretical Perspectives on Environmental Accounting

The adoption and disclosure of environmental accounting practices can be understood through several theoretical frameworks:

- **Stakeholder Theory** (Freeman, 1984): Firms disclose environmental practices to address the concerns of stakeholders such as investors, regulators, employees, and communities. High disclosure levels are seen as strategies to build legitimacy and trust.
- **Legitimacy Theory** (Suchman, 1995): Companies engage in environmental accounting to maintain societal legitimacy, especially when operating in environmentally sensitive industries.
- **Institutional Theory** (DiMaggio & Powell, 1991): Firms adopt environmental practices due to institutional pressures, coercive (laws), normative (industry standards), and mimetic (imitation of peers).
- **Triple Bottom Line (TBL) Approach** (Elkington, 1997): Emphasizes that firms must balance economic, social, and environmental dimensions, with environmental accounting serving as a mechanism to capture the "planet" aspect of sustainability.

  These frameworks provide the conceptual foundation for analysing why firms engage in environmental accounting and how such practices may influence financial outcomes.

2.3 Global Evidence on Environmental Accounting and Financial Performance

Several empirical studies worldwide have examined whether environmental accounting positively influences financial performance:

- **Positive Association:**
  - **Clarkson et al. (2008)** found that U.S. firms with higher environmental disclosures experienced superior financial performance, attributed to improved stakeholder relations and lower capital costs.
  - **Ameer & Othman (2012)** reported that companies in developed countries with sustainability disclosures had higher profitability and stronger stock market performance.
  - **Busch & Hoffmann (2011)** observed that carbon-efficient firms in Europe had higher returns on equity, linking carbon accounting with competitive advantage.
- **Mixed Findings:**
  - **Hassel, Nilsson, & Nyquist (2005)** suggested that while environmental performance influences firm valuation, the effect is not uniform across sectors.
  - Some studies (e.g., Cormier & Magnan, 2007) argue that disclosure quality matters more than disclosure quantity in generating financial benefits.
- **Negative Association:**
  - **Walley & Whitehead (1994)** argued that environmental initiatives often impose costs that outweigh

short-term financial gains.

- Certain studies in emerging economies (e.g., in Southeast Asia) highlight that compliance costs and lack of investor awareness reduce financial benefits of environmental disclosures (Ngwakwe, 2009). Overall, global evidence suggests a positive long-term relationship between environmental accounting and financial performance, although results vary by context and industry.

2.4 Indian Context: Environmental Accounting and Financial Performance

Research on environmental accounting in India is relatively recent but growing.

- **Recent Evidence:**
- **Kumar & Prakash (2019)** observed that Indian firms with higher environmental disclosures under GRI guidelines achieved better financial performance, particularly in the energy and IT sectors.
- **Bhatia & Tuli (2021)** found that the implementation of SEBI's BRSR framework significantly improved disclosure quality, though many companies still treated it as a compliance exercise rather than a strategic tool.
- Empirical evidence from NSE-listed companies suggests that environmental disclosures enhance investor confidence, reflected in higher stock returns (Reddy & Gordon, 2014).
- **Sectoral Variations:**
- Energy-intensive industries such as power, oil & gas, and steel report more environmental data due to regulatory and stakeholder pressures.
- Service sectors (IT, finance) focus more on indirect disclosures like carbon neutrality pledges, renewable energy adoption, and paperless operations.

Despite progress, India still faces challenges such as a lack of standardized measurement frameworks, inconsistency in reporting, and limited assurance mechanisms.

2.5 Gaps in the Literature

The review of global and Indian studies reveals several key gaps in the existing literature. While Environmental disclosure practices in India are gradually improving, their measurable impact on firms' financial performance remains insufficiently explored. Moreover, most prior studies have relied on aggregated samples, overlooking the potential sectoral differences between high-impact industries such as manufacturing and energy and low-impact sectors like IT and banking. Another significant limitation is the emphasis on the quantity of disclosures rather than the quality or depth of information shared, leaving the true comprehensiveness of ESG reporting underexamined. Furthermore, despite the introduction of SEBI's mandatory Business Responsibility and Sustainability Report (BRSR) framework in 2021, there is a noticeable lack of empirical evidence assessing its financial implications for listed firms, indicating the need for updated and context-specific research in the post-BRSR era.

2.6 Conceptual Framework Derived from Literature

Based on the review, this study positions environmental accounting as an independent variable, financial performance as the dependent variable, and firm-specific controls (size, age, leverage, industry) as moderating factors. The relationship is supported by stakeholder, legitimacy, and institutional theories, which suggest that firms adopting environmental practices are rewarded with improved reputation, stakeholder trust, and eventually better financial performance.

3. Conceptual Framework and Hypotheses

3.1 Conceptual Framework

Environmental accounting practices are expected to influence financial performance, as reflected in profitability measures (ROA, ROE, EPS) and market valuation indicators (Tobin's Q, market capitalization). This relationship is moderated by firm-specific factors, including size, age, leverage, and industry type. Larger firms, for instance, may have more resources to implement environmental initiatives and may also face greater public scrutiny, thereby strengthening the link between disclosure and financial outcomes.

The conceptual model is illustrated as follows:

Environmental Accounting Practices (EAP) → Financial Performance (ROA, ROE, EPS, Tobin's Q) *with control variables: firm size, age, leverage, and industry type.*

3.2 Independent Variable: Environmental Accounting Practices (EAP)

Environmental accounting practices are operationalized through the construction of an Environmental Accounting Practices Index (EAPI) based on content analysis of annual reports, sustainability reports, and BRSR disclosures. The index will include indicators such as:

- Carbon emissions disclosure.
- Energy and water consumption reporting.
- Waste management practices.
- Pollution abatement costs.
- Environmental liabilities and provisions.
- Investments in renewable energy and clean technologies.

  The index will assign scores based on the extent (quantity) and depth (quality) of disclosures, enabling cross-company comparisons.

3.3 Dependent Variable: Financial Performance

Financial performance is measured using both accounting-based and market-based indicators:

- **Return on Assets (ROA):** Reflects efficiency in utilizing assets to generate earnings.
- **Return on Equity (ROE):** Captures profitability relative to shareholder equity.
- **Earnings per Share (EPS):** Indicates profitability available to equity holders.
- **Tobin's Q:** Market-based measure comparing market value to asset replacement cost, signalling investor perception.

3.4 Control Variables

To isolate the effect of environmental accounting practices, the study incorporates control variables that may influence financial performance:

- **Firm Size:** Larger firms may have economies of scale and higher disclosure obligations.
- **Firm Age:** Older firms may demonstrate more established reporting systems.
- **Leverage:** Highly leveraged firms may allocate fewer resources to environmental initiatives.
- **Industry Type:** Energy-intensive sectors face greater regulatory and stakeholder pressures.

3.5 Hypotheses Development

H1: There is a positive association between environmental accounting practices (EAP) and financial performance (ROA, ROE, EPS) of Indian listed companies.

H2: The relationship between EAP and financial performance is stronger in environmentally sensitive industries (e.g., energy, manufacturing) than in service-oriented sectors (e.g., IT, banking).

H4: Firm-specific factors such as size, age, and leverage moderate the relationship between EAP and financial performance.

The conceptual framework positions environmental accounting practices as a driver of financial performance, with moderating effects of firm characteristics and sectoral context. The hypotheses developed here will be empirically tested using panel data analysis on Indian listed firms between 2017 and 2024.

4. Research Methodology

4.1 Research Design

This study adapts a quantitative research design using secondary data from annual reports, sustainability reports, and Business Responsibility and Sustainability Reports (BRSR) of Indian listed companies (NIFTY). The approach combines content analysis to develop an Environmental Accounting Practices Index (EAPI) with econometric modelling to assess the relationship between environmental accounting and financial performance. The design is appropriate for addressing the research questions because it enables both descriptive analysis of disclosure patterns and inferential testing of hypothesized relationships.

4.2 Population and Sample Selection

The study focuses on companies listed on the National Stock Exchange (NSE) in India. Given practical constraints, a purposive sampling strategy is adopted.

- **Population:** All NSE-listed companies.
- **Sample:** Top 100 companies based on market capitalization, covering diverse industries such as energy, manufacturing, IT, banking, and FMCG.
- **Time Frame:** Financial years 2017 - 2024. This period encompasses both the pre- and post-implementation phases of SEBI's BRSR mandate (2021), providing comparative insights.
- **Exclusions:** Firms with incomplete reports, financial institutions with atypical disclosure formats (unless in focus), and companies delisted during the study period.

  The final sample is expected to yield approximately 700–1,000 firm-year observations, suitable for panel data regression analysis.

4.3 Data Sources

Data will be collected from multiple reliable sources:

- **Annual Reports** (financial disclosures).
- **Sustainability/ESG Reports** (voluntary disclosures).
- **BRSR Reports** (mandatory disclosures post-2021).
- **Databases:** NSE corporate filings for financial variables.

4.4 Measurement of Variables

4.4.1 Independent Variable: Environmental Accounting Practices (EAP)

The study constructs an Environmental Accounting Practices Index (EAPI) using content analysis. Following the Global Reporting Initiative (GRI), the UN Sustainable Development Goals (SDGs), and SEBI's BRSR framework, key disclosure items include:

1. Carbon emissions.
2. Energy consumption and renewable energy initiatives.
3. Water usage and recycling practices.
4. Waste generation and disposal.
5. Pollution abatement measures.
6. Environmental fines or penalties disclosed.
7. Provisions for environmental liabilities.
8. Investments in clean technology or renewable projects.
9. Certifications (ISO 14001, carbon neutrality pledges, etc.).

Scoring Method:

- 0 = No disclosure
- 1 = Partial/qualitative disclosure
- 2 = Quantitative disclosure (with targets or metrics)

  The EAPI score is then computed for each firm-year observation, normalized to a scale of 0 - 1 for comparability.

4.4.2 Dependent Variable: Financial Performance

Financial performance is assessed using both accounting-based and market-based indicators:

- **ROA (Return on Assets):** Net Income ÷ Total Assets.
- **ROE (Return on Equity):** Net Income ÷ Shareholder Equity.
- **EPS (Earnings per Share):** Net Profit ÷ Number of Shares Outstanding.
- **Tobin's Q:** (Market Value of Equity + Book Value of Debt) ÷ Book Value of Assets.

  These variables capture operational efficiency, shareholder returns, and investor valuation perspectives.

4.4.3 Control Variables

To minimize omitted variable bias, the following control variables are included:

- **Firm Size:** Natural log of total assets.
- **Firm Age:** Years since incorporation/listing.
- **Leverage:** Total debt ÷ Equity ratio.
- **Industry Type:** Dummy variables for energy, manufacturing, IT, and banking.

4.5 Data Analysis Techniques

1. **Descriptive Statistics:**
   - To summarize disclosure patterns, financial performance, and firm characteristics.
   - Mean, standard deviation, minimum, and maximum values will be reported.
2. **Correlation Analysis:**

- To check associations among variables and identify multicollinearity.

3. **Regression Analysis:**

- Panel Data Regression Models (Fixed Effects and Random Effects) will be used to test hypotheses.

Model Specification:

$$FP_{it}=\alpha+\beta_1 EAPI_{it}+\beta_2 SIZE_{it}+\beta_3 AGE_{it}+\beta_4 LIV_{it}+\beta_5 IND_{it}+\varepsilon_{it}$$

Where:

- FP_{it} = Financial performance of firm *i* at time *t* (ROA, ROE, EPS, Tobin's Q).
- $EAPI_{it}$ = Environmental Accounting Practices Index.
- SIZE, AGE, LEV, IND = Control variables.
- ϵ_{it} = Error term.

The methodology combines content analysis with econometric testing, ensuring a rigorous assessment of how environmental accounting practices affect financial performance in India. By covering multiple sectors and incorporating both pre- and post-BRSR periods, the study provides a comprehensive view of the evolving disclosure landscape.

5. Results and Analysis

5.1 Descriptive Statistics

Table 1 presents the descriptive statistics for all variables across the sample of 120 Indian listed firms for the period 2017–2024, resulting in 840 firm-year observations.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
EAPI (0–1)	0.46	0.21	0.12	0.91
ROA (%)	8.73	5.84	-4.12	23.45
ROE (%)	14.52	8.71	-6.30	31.62
EPS (₹)	21.36	11.25	-2.45	48.30
Tobin's Q	1.82	0.96	0.65	4.72
Firm Size (log assets)	10.42	1.09	8.20	13.21
Firm Age (years)	34.65	15.21	8	72
Leverage (D/E)	1.12	0.76	0.12	3.41

Table 1 states that the average Environmental Accounting Practices Index (EAPI) score is 0.46, suggesting that Indian companies disclose less than 50% of the possible environmental accounting items. Financial performance indicators (ROA, ROE, EPS) show wide variability, highlighting sectoral differences. Tobin's Q average of 1.82 suggests moderate investor valuation relative to assets, with significant variation across firms.

5.2 Correlation Analysis

Table 2 reports Pearson correlation coefficients among the main variables.

Table 2: Correlation Matrix

Variables	EAPI	ROA	ROE	EPS	Tobin's Q	Size	Leverage
EAPI	1	0.32	0.28	0.25	0.36	0.41	-0.12
ROA	0.32	1	0.71	0.68	0.29	0.18	-0.22
ROE	0.28	0.71	1	0.74	0.31	0.15	-0.19
EPS	0.25	0.68	0.74	1	0.27	0.12	-0.14
Tobin's Q	0.36	0.29	0.31	0.27	1	0.20	-0.10

Interpretation: EAPI is positively correlated with all financial performance measures, with the strongest correlation observed with Tobin's Q (0.36). Firm size correlates positively with EAPI, indicating that larger firms tend to disclose more environmental data. Leverage is negatively associated with both EAPI and financial performance, suggesting that debt-burdened firms may prioritize financial performance over environmental initiatives.

5.3 Regression Analysis

Panel regression models were estimated with ROA, ROE, EPS, and Tobin's Q as dependent variables. The Hausman test confirmed that fixed effects models were more appropriate.

Table 3: Regression Results

Variables	ROA	ROE	EPS	Tobin's Q
EAPI	4.12	5.85	6.42	0.73
Firm Size	0.98	1.12	1.31	0.15
Firm Age	0.05	0.08	0.03	-0.01
Leverage	-1.85	-2.42	-2.10	-0.26
Industry Dummies	Yes	Yes	Yes	Yes
R^2 (within)	0.34	0.39	0.36	0.42
Observations	840	840	840	840

Interpretation: EAPI has a significant positive effect on all financial performance indicators. For instance, a one-unit increase in EAPI (i.e., full disclosure) is associated with a 4.12% rise in ROA and a 0.73 increase in Tobin's Q. Firm size is positively significant, confirming that larger firms reap more financial benefits from environmental disclosures. Firm age shows no significant impact, suggesting maturity does not necessarily enhance performance outcomes of disclosures. Leverage is negatively significant, meaning highly indebted firms experience reduced financial benefits from environmental practices.

5.4 Sectoral Analysis

To test Hypothesis 3, separate regressions were conducted for environmentally sensitive industries (energy and manufacturing) versus service-oriented sectors (IT and banking).

Table 4: Sectoral Regression Results (EAPI → Tobin's Q)

Sector	Coefficient (EAPI)	Significance	R^2
Energy & Manufacturing	0.92	Strong Positive	0.45
IT & Banking	0.41	Moderate Positive	0.28

Table 4 depicts that the effect of EAPI on Tobin's Q is stronger in energy and manufacturing sectors (0.92) compared to IT and banking (0.41). This supports Hypothesis 3: environmentally sensitive sectors derive greater valuation benefits from environmental accounting.

5.5 Robustness Checks

- **Alternative Performance Measures:** Using ROCE (Return on Capital Employed) and stock returns produced consistent positive results.
- **Endogeneity Test:** Instrumental variable regression using industry-average EAPI as an instrument showed no significant bias.

5.6 Key Findings

1. **Positive Association:** Environmental accounting practices significantly improve both accounting-based and market-based financial performance.
2. **Sectoral Differences:** Stronger effects are observed in environmentally sensitive sectors (energy, manufacturing) than in service-oriented industries.
3. **Firm Characteristics Matter:** Larger firms benefit more from environmental disclosures, while high leverage dampens financial gains.
4. **Investor Confidence:** Higher EAPI scores are associated with improved Tobin's Q, confirming that investors reward transparency and sustainability efforts.

6. Discussion

6.1 Linking Findings with Literature

The empirical results reveal a positive and significant association between Environmental Accounting Practices (EAPI) and financial performance (ROA, ROE, EPS, Tobin's Q). This aligns with prior studies suggesting that environmental initiatives enhance efficiency, reduce costs, and improve stakeholder relationships. For example, Clarkson et al. (2011) demonstrated that voluntary environmental disclosures in developed markets were associated with higher firm valuations. Similarly, Indian studies, such as Bhatia & Tuli (2017) and Kumar et al. (2022), have found that proactive sustainability reporting improves investor perception and firm reputation.

The findings also support stakeholder theory, which posits that companies integrating environmental concerns into their reporting gain legitimacy, stakeholder trust, and financial benefits. Moreover, the results resonate with the resource-based view (RBV), suggesting that environmental practices constitute strategic resources that differentiate firms and generate competitive advantage.

Interestingly, firm age was not significant, contrasting with some earlier research (e.g., Ullmann, 1985), which suggested mature firms disclose more due to accumulated experience. In the Indian context, it appears that regulatory pressure and investor demands outweigh historical maturity as drivers of environmental accounting.

6.2 Sectoral Insights

The stronger positive impact of environmental accounting in the energy and manufacturing sectors compared to IT and banking highlights sectoral nuances. Heavy industries face greater scrutiny due to their carbon footprint, and environmental disclosures are closely tied to risk management and regulatory compliance. As such, investors may interpret higher disclosure scores as indicators of lower environmental risk, which can lead to improved valuations.

Conversely, the IT and banking sectors, while increasingly pressured to disclose ESG data, have less direct environmental impact. Here, environmental reporting may be viewed as reputational rather than operational, yielding relatively weaker financial effects. These finding echoes those of Lourenço et al. (2014), who demonstrated that environmentally sensitive sectors receive stronger market rewards for transparency.

6.3 Implications for Theory

The study contributes to multiple theoretical streams:

1. **Legitimacy Theory:** Results reinforce the idea that environmental disclosures function as a legitimacy tool, especially in India, where stakeholder awareness is growing. Companies with higher EAPI scores are likely to enjoy reduced legitimacy gaps, which translates into financial gains.
2. **Stakeholder Theory:** The positive association suggests that firms responding to stakeholder demands for transparency can align business and social objectives. This strengthens the view that non-financial disclosures are not merely symbolic but have tangible economic consequences.
3. **Resource-Based View:** By framing environmental accounting as a unique resource, the study demonstrates how sustainability practices can be strategically leveraged to enhance competitive advantage.

6.4 Practical Implications

For Companies:

- Firms should view environmental accounting not as a compliance burden but as a value-creating strategy. Investments in disclosure systems, emissions tracking, and sustainability initiatives can yield financial returns by enhancing operational efficiency and fostering investor trust.
- High-leverage firms may face constraints in financing environmental initiatives, but adopting cost-saving measures (e.g., energy efficiency, waste reduction) could alleviate debt pressures while enhancing environmental scores.

For Investors:

- Investors can use EAPI as a signal of corporate responsibility and long-term risk management. Higher environmental transparency indicates lower exposure to environmental penalties, reputational damage, or regulatory shocks, making such firms more attractive.
- Sectoral findings suggest investors should weigh environmental disclosures more heavily when evaluating heavy industries compared to services.

For Policymakers and Regulators:

- The findings validate SEBI's decision to mandate BRSR reporting, as transparency appears to enhance both corporate accountability and market performance.
- Policymakers should continue aligning reporting frameworks with global standards (e.g., GRI, ISSB)

to ensure comparability and credibility of disclosures.
- Supportive policies, such as tax incentives for clean technology adoption, could encourage firms with low leverage to invest more in sustainability.

6.5 Comparative Insights: India and Global Trends

Globally, the integration of environmental accounting into corporate reporting is well established in Europe, Japan, and North America. Indian companies are relatively new entrants, but momentum has accelerated since 2021, following SEBI's BRSR mandate. The mean EAPI score of 0.46 indicates that while Indian firms are making progress, their disclosures remain less comprehensive than those of their global peers.

Nevertheless, the positive investor response in India demonstrates that even incremental improvements in transparency are rewarded by markets. This suggests a converging trend in which environmental accounting is evolving into a mainstream driver of financial value, similar to that in mature economies.

6.6 Summary of Discussion

Overall, the results confirm that environmental accounting practices are not merely symbolic gestures but significant drivers of financial performance in the Indian context. They enhance operational efficiency, investor confidence, and corporate legitimacy. Sectoral variations suggest that environmental sensitivity amplifies these benefits, while firm size and leverage influence the extent of financial gains. The study bridges stakeholder, legitimacy, and RBV perspectives in theory; in practice, it underscores the strategic importance of environmental accounting for firms, investors, and regulators alike.

7. Conclusion and Implications

7.1 Summary of Findings

This study aimed to investigate the impact of environmental accounting practices on the financial performance of Indian listed companies. By constructing an Environmental Accounting Practices Index (EAPI) through content analysis of annual reports, sustainability reports, and BRSR disclosures from 2017 to 2024, and linking it to firm-level financial data, the research provides strong evidence that environmental transparency is financially beneficial.

The key findings are as follows:

1. **Positive Relationship:** Firms with higher EAPI scores consistently exhibited superior accounting-based (ROA, ROE, EPS) and market-based (Tobin's Q) performance.
2. **Sectoral Differences:** The positive effect of environmental accounting was more pronounced in environmentally sensitive sectors (energy, manufacturing) than in service-oriented sectors (IT, banking).
3. **Firm Characteristics:** Larger firms benefited more from environmental disclosures, while higher leverage dampened financial gains.
4. **Investor Confidence:** Market valuation, as reflected in Tobin's Q, was strongly linked to environmental accounting, highlighting its role as a signal of long-term risk management and sustainability.

7.2 Directions for Future Research

Future research could extend this study in several directions:

1. Incorporating third-party ESG ratings or environmental performance metrics (e.g., carbon intensity, renewable energy use) to validate disclosures.
2. Conducting cross-country comparisons with other emerging economies to explore how institutional environments mediate disclosure–performance relationships.
3. Exploring longitudinal impacts of environmental accounting by applying dynamic models such as GMM or difference-in-differences frameworks.
4. Investigating the role of social and governance factors alongside environmental accounting for a holistic view of ESG–financial performance linkages.

7.3 Conclusion

This study concludes that environmental accounting practices are not just symbolic but strategically significant drivers of financial performance in Indian listed companies. Firms that invest in transparent and comprehensive environmental disclosures enjoy enhanced operational efficiency, improved investor confidence, and superior market valuation. Sectoral differences highlight that the financial rewards are greatest for industries with high environmental exposure, but the benefits extend across the corporate landscape.

As India deepens its commitment to sustainability and integrates ESG frameworks into corporate governance, environmental accounting will increasingly shape financial competitiveness. For firms, it is a call to move beyond compliance and embed sustainability into core business strategies. For investors, it is a signal that environmental transparency is a marker of long-term resilience. And for policymakers, it is evidence that well-crafted regulations can align corporate behaviour with broader societal goals of sustainability.

In summary, environmental accounting serves as a powerful lever for reconciling financial performance with environmental responsibility, positioning Indian companies to thrive in a global economy where sustainability is no longer optional but essential.

References:

1. Bhatia, A., & Tuli, S. (2017). Corporate social responsibility disclosure and financial performance linkage: Evidence from India. International Journal of Business Governance and Ethics, 12(3), 230–248. https://doi.org/10.1504/IJBGE.2017.086710
2. Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2011). Does it really pay to be green? Determinants and consequences of proactive environmental strategies. Journal of Accounting and Public Policy, 30(2), 122–144. https://doi.org/10.1016/j.jaccpubpol.2010.09.013
3. Deegan, C. (2019). An introduction to accounting: Accountability in society (5th ed.). Cengage Learning.
4. Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.
5. Gujarati, D. N., & Porter, D. C. (2010). Basic econometrics (5th ed.). McGraw-Hill Education.
6. Jain, T., & Jamali, D. (2016). Looking inside the black box: The effect of corporate governance on corporate social responsibility. Corporate Governance: An International Review, 24(3), 253–273. https://doi.org/10.1111/corg.12154
7. Joshi, P. L., & Gao, S. S. (2009). Multinational corporations' corporate social and environmental

disclosures (CSED) on web sites. International Journal of Commerce and Management, 19(1), 27–44. https://doi.org/10.1108/10569210910939654

8. Kumar, A., Singh, R., & Arora, P. (2022). Sustainability reporting and firm performance: Evidence from India. Social Responsibility Journal, 18(6), 1301–1317. https://doi.org/10.1108/SRJ-09-2020-0368
9. Lourenço, I. C., Callen, J. L., Branco, M. C., & Curto, J. D. (2014). The value relevance of reputation for sustainability leadership. Journal of Business Ethics, 119(1), 17–28. https://doi.org/10.1007/s10551-012-1617-7
10. Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2009). Does it pay to be good… and does it matter? A meta-analysis of the relationship between corporate social and financial performance. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1866371
11. Ministry of Corporate Affairs (MCA). (2021). Report of the Committee on Business Responsibility Reporting. Government of India. https://www.mca.gov.in/
12. Rao, K., & Tilt, C. (2016). Board composition and corporate social responsibility: The role of diversity, gender, strategy, and decision-making. Journal of Business Ethics, 138(2), 327–347. https://doi.org/10.1007/s10551-015-2613-5
13. Sarkar, S., & Searcy, C. (2016). Zeitgeist or chameleon? A quantitative analysis of CSR definitions. Journal of Cleaner Production, 135, 1423–1435. https://doi.org/10.1016/j.jclepro.2016.06.157
14. Securities and Exchange Board of India (SEBI). (2021). Business Responsibility and Sustainability Reporting (BRSR) framework. https://www.sebi.gov.in/
15. Ullmann, A. A. (1985). Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance. Academy of Management Review, 10(3), 540–577. https://doi.org/10.5465/amr.1985.4278989
16. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. https://sdgs.un.org/