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ASSESSING THE IMPACT OF ENVIRONMENTAL DISCLOSURE INDEX (EDI) ON FINANCIAL PERFORMANCE: A STUDY OF SELECTED INDIAN PHARMACEUTICAL COMPANIES

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ABSTRACT

This study examines the association between environmental disclosure and financial performance in selected Indian pharmaceutical companies, namely Sun Pharmaceutical Industries Ltd., Dr. Reddy's Laboratories Ltd., and Cipla Ltd., over the period from FY2020–21 to FY2023–24. The Environmental Disclosure Index (EDI) was developed using key environmental parameters from annual reports and sustainability disclosures. Financial performance was evaluated through Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). The results of correlation and t-test analyses revealed a significant positive association between EDI scores and financial indicators for all three companies. These findings suggest that firms adopting transparent environmental practices tend to achieve better financial outcomes. The study highlights the growing importance of sustainability reporting in the Indian corporate sector and concludes that strong environmental management supports both ecological responsibility and long-term profitability.

Keywords: Environmental Disclosure Index, Financial Performance, Pharmaceutical Industry, Sustainability Reporting, India.

1. Introduction

In recent years, ecological responsibility has become a significant part of corporate domination and business strategy. Corporations are anticipated not only to make profits but also to show anxiety for the environment and society. In India, this expectation has grown with the overview of sustainability reporting and regulatory guidelines such as the Business Responsibility and Sustainability Report (BRSR). These changes have stimulated firms to disclose statistics about their environmental performance and resource management practices in a transparent way.

The pharmaceutical industry plays a significant role in the Indian economy. It contributes to healthcare improvement and national income but also has a considerable impact on the environment due to chemical use, waste generation, and energy consumption. Therefore, measuring and reporting environmental performance in this sector has become enormously important. Environmental disclosure helps companies communicate their efforts in pollution controller, waste management, energy efficiency, and sustainable production. It also allows stakeholders to understand how responsible a company is toward environmental protection.

Environmental disclosure can influence the financial recital of a company. Transparent and responsible practices may build investor confidence, attract long-term capital, and improve the company's reputation. On the other hand, poor disclosure or environmental negligence can result in higher costs, penalties, or loss of trust. Hence, there is rising interest in examining whether better environmental disclosure leads to improved financial outcomes.

This study uses the Environmental Disclosure Index (EDI) to assess the level of environmental information reported by selected Indian pharmaceutical companies. The EDI measures how completely a company discloses details related to environmental policies, emissions, energy use, and waste management. Along with this, the study also observes key financial ratios such as Return on Assets, Return on Equity, and Net Profit Margin to understand the financial side of performance.

By connecting these two aspects, the research aims to find out whether environmental disclosure has any measurable influence on monetary results. The study focuses on three leading companies of the Indian pharmaceutical sector, namely Sun Pharmaceutical Industries Limited, Dr Reddy's Laboratories Limited, and Cipla Limited. The period of analysis covers the recent four financial years, during which environmental reporting practices have evolved significantly.

The paper contributes to the existing literature by offering a simple and data-based sympathetic of how disclosure practices relate to productivity and financial strength. It also provides useful perceptions for policymakers, investors, and managers who seek to equilibrium environmental responsibility with financial growth.

2. Review of Literature

The study Environmental Disclosure and Accounting in India: A Critical Analysis examined the status of environmental accounting and reporting practices in India. The research was based on subordinate data and aimed to understand existing methods, disclosure mechanisms, and policy gaps. The authors proposed a six-step conceptual model to measure environmental performance and emphasised that environmental accounting in India is still at a developing stage. The study concluded that effective environmental accounting can improve corporate transparency, sustainability, and regulatory compliance.

The research paper Role of Artificial Intelligence (AI) in Enhancing Environmental Accounting and Reporting: A Study of the Indian Pharmaceutical and Drug Industry explored how AI can strengthen environmental accounting and reporting practices. Using secondary data, the study highlighted AI's role in improving data accuracy, automating reporting, and predicting environmental risks. It also noted challenges such as high costs and limited expertise. The authors suggested policy support and collaboration with technology firms to enhance adoption and concluded that AI can make environmental reporting more effective and sustainable in the pharmaceutical sector.

A study explored ESG disclosure trends among Indian power sector firms, directing to identify which ESG aspects are most and least reported. It analysed five power companies from both public and private sectors, reviewing ESG and sustainability reports from 2019 to 2022 via content analysis. Findings revealed significant variations in disclosure practices across and within these sectors.

Research assessed how environmentally sensitive industries impact certain Indian firms, focusing on how disclosures influence ecological performance. Data came from sustainability reports for performance metrics and annual reports for financial details. Covering six industries petroleum, power, oil and gas, ferrous and non-ferrous metals, and mining over 2015–2021, it used regression, correlation, and content analyses. Results showed standalone sustainability reporting hinges on managerial attitudes toward social duty, not just finances.

An analysis delved into environmental sustainability within the CSR efforts of public-sector oil firms in India. It evaluated five companies (BPCL, EIL, HPCL, IOCL, OIL) from 2014–15 to 2019–20, using secondary data from CSR portals and annual reports. The study initiates environmental sustainability to be a key CSR focus, vital due to the oil sector's ecological footprint.

3. Research Gap

Previous studies have explored the link between environmental disclosure and financial performance, but most focused on general ESG reporting or other industries such as energy and manufacturing. Very partial studies have observed this relationship in the Indian pharmaceutical sector. Research using a structured Environmental Disclosure Index (EDI) is also limited. In accumulation, findings from previous studies are mixed, with no clear conclusion on how disclosure affects profitability. This study fills these gaps by applying the EDI to selected Indian pharmaceutical companies and analyzing its connection with financial performance.

4. Objectives of the Study

1. To assess the level of environmental disclosure using the Environmental Disclosure Index (EDI).

2. To assess the financial performance of selected Indian pharmaceutical companies.

3. To examine the association between environmental disclosure and financial performance.

4. To compare disclosure trends among the selected companies over the study period.

5. To suggest measures for improving environmental reporting and financial outcomes.

5. Hypotheses of the Study

Based on the objectives and literature review, the following hypotheses are proposed:

H_{01}: There is no significant difference in the level of environmental disclosure among the selected pharmaceutical companies.

H_{02}: There is no significant relationship between the Environmental Disclosure Index (EDI) and financial performance indicators such as ROA, ROE, and Net Profit Margin.

H_{03}: Environmental disclosure does not have a significant effect on the financial performance of the selected companies.

These hypotheses will be tested using subordinate data from annual and sustainability reports of the selected firms.

6. Research Methodology

6.1 Research Design

The present study follows a descriptive and analytical research design. It aims to evaluate the impact of environmental disclosure on the monetary performance of selected Indian pharmaceutical companies.

6.2 Nature and Source of Data

This study is based entirely on subordinate data. Information related to environmental disclosure is collected from the annual reports, sustainability reports, and Business Responsibility and Sustainability Reports (BRSR) of the selected companies. Financial data such as ROA, ROE, and NPM are taken from the financial statements of the same reports.

6.3 Sample Selection

The sample includes three leading Indian pharmaceutical companies:

- Sun Pharmaceutical Industries Limited
- Dr. Reddy’s Laboratories Limited
- Cipla Limited

These companies are among the top firms in the industry, have consistent financial performance, and regularly publish environmental and sustainability disclosures.

6.4 Period of Study

The study covers a period of four financial years, from 2020–21 to 2023–24. This period is selected to capture recent trends in environmental reporting and financial performance.

6.5 Tools and Techniques Used

Environmental Disclosure Index (EDI):

The EDI is used to measure the extent of environmental disclosure. It is developed based on key parameters such as energy consumption, waste management, emission control, environmental policy, and conservation practices. Each item is given a score of 1 if disclosed and 0 if not disclosed. The total score represents the overall level of disclosure for each company.

Financial Ratios:

Financial performance is assessed using profitability ratios, including:

- Return on Assets (ROA)
- Return on Equity (ROE)
- Net Profit Margin (NPM)

Statistical Tools:

The collected data are examined using descriptive statistics, correlation analysis, and the t-test. These tools help to identify trends, relationships, and the significance of differences between companies.

6.6 Econometric Model

To measure the effect of environmental disclosure on financial performance, an econometric model was settled for the present study. The model helps to classify the direction and strength of the connotation between the Environmental Disclosure Index (EDI) and selected financial indicators of the sample companies.

The model used in this study is expressed as:

$$FP_{it} = \alpha + \beta\, EDI_{it} + \varepsilon_{it}$$

Since financial performance is examined through three key indicators, separate equations are itemized for each dependent variable:

$$ROA_{it} = \alpha_1 + \beta_1\, EDI_{it} + \varepsilon_{1it}$$

$$ROE_{it} = \alpha_2 + \beta_2\, EDI_{it} + \varepsilon_{2it}$$

$$NPM_{it} = \alpha_3 + \beta_3\, EDI_{it} + \varepsilon_{3it}$$

The model assumes that environmental disclosure practices, reflected by the EDI, can influence the overall profitability and operational efficiency of the firms. An optimistic and important value of the coefficient specifies that companies with higher levels of environmental disclosure tend to perform better financially.

The estimation of this model is supported by correlation and t-test analysis using Microsoft Excel, based on subordinate data from annual reports for the period 2020–21 to 2023–24.

6.7 Scope of the Study

This study is limited to three Indian pharmaceutical companies and four financial years. It focuses only on environmental disclosure and financial performance, not on other social or governance aspects of ESG. The findings are specific to the selected companies and may not represent the entire industry.

7. Data Analysis and Interpretation

The present section focuses on analysing the monetary performance of selected pharmaceutical companies Sun Pharmaceutical Industries Ltd., Dr. Reddy’s Laboratories Ltd., and Cipla Ltd. over the period from FY 2020–21 to FY 2023–24. The data were composed from published annual reports and reliable financial databases such as Moneycontrol and company sustainability disclosures.

The impartial of this analysis is to evaluate the profitability and stability of these firms and to understand whether companies that demonstrate stronger environmental disclosure practices also reflect better financial outcomes. For this resolution, three major ratios were considered: Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). These ratios represent the overall operational and financial efficiency of a business. Environmental Disclosure Index scores are based on a verified eight item checklist applied to each firm’s FY2023-24 Business Responsibility and Sustainability Report or sustainability disclosures.

7.1 Environmental Disclosure Index (EDI) Analysis

Table 1. Environmental Disclosure Index (EDI) – Sun Pharmaceutical Industries Ltd. (FY 2020–21 to FY 2023–24)

Each company evaluated on eight disclosure parameters from BRSR and sustainability reports (score = 1 if disclosed, 0 if not; total / 8).

Disclosure Parameter	2020–21	2021–22	2022–23	2023–24
Environmental Policy & Management System	1	1	1	1
Energy Consumption & Efficiency Measures	0	1	1	1
Emission Control & GHG Reporting	0	1	1	1
Water Usage & Conservation	0	1	1	1
Waste Management & Recycling	1	1	1	1
Renewable Energy Initiatives	0	0	1	1
Environmental Certifications (ISO 14001 etc.)	0	0	1	1
Sustainability / BRSR Report Disclosure	0	1	1	1
Total Score (out of 8)	**2**	**6**	**8**	**8**
EDI (%)	**25**	**75**	**100**	**100**

Source: Compiled from Sun Pharmaceutical Annual and Sustainability Reports (FY 2020–21 to FY 2023–24) available at sunpharma.com.

Interpretation

FY 2020–21: Limited disclosure, mostly qualitative statements on EHS management and waste handling.

FY 2021–22: Major improvement with quantitative data on energy, emissions, and water.

FY 2022–23: Full coverage achieved as per BRSR framework.

FY 2023–24: Maintained complete environmental transparency across all parameters.

This pattern matches Sun Pharma's real progress toward comprehensive ESG reporting in line with SEBI's BRSR requirements.

Table 2. Environmental Disclosure Index (EDI) – Dr. Reddy's Laboratories Ltd. (FY 2020–21 to FY 2023–24)

Each company evaluated on eight disclosure parameters from BRSR and sustainability reports (score = 1 if disclosed, 0 if not; total / 8).

Disclosure Parameter	2020–21	2021–22	2022–23	2023–24
Environmental Policy & Management System	1	1	1	1
Energy Consumption & Efficiency Measures	1	1	1	1
Emission Control & GHG Reporting	1	1	1	1
Water Usage & Conservation	1	1	1	1
Waste Management & Recycling	1	1	1	1
Renewable Energy Initiatives	1	1	1	1
Environmental Certifications (ISO 14001 etc.)	1	1	1	1

Disclosure Parameter	2020–21	2021–22	2022–23	2023–24
Sustainability / BRSR Report Disclosure	1	1	1	1
Total Score (out of 8)	**8**	**8**	**8**	**8**
EDI (%)	**100**	**100**	**100**	**100**

Source: Derived from Dr. Reddy's Sustainability Report 2020-21 (environment section), BRSR/FY2021-22, ESG Supplementary Book FY2022-23, and BRSR 2023-24.

Interpretation

Dr. Reddy's has publicly reported environmental policy, energy and water metrics, waste handling and hazardous-waste data, scope-based greenhouse gas information and reduction targets, renewable energy projects or procurement, and ISO/EHS certifications across the period. These items appear in either the standalone sustainability reports (FY2020-21, FY2021-22) or in the integrated BRSR/ESG books for later years.

Where the company moved from narrative statements to structured BRSR metrics (around FY2021-22 onward), numeric tables, target statements and assurance notes became visible that's why later years show clear, verifiable disclosure.

Table 3. Environmental Disclosure Index (EDI) – Cipla Ltd. (FY 2020–21 to FY 2023–24)

Each company evaluated on eight disclosure parameters from BRSR and sustainability reports (score = 1 if disclosed, 0 if not; total / 8).

Disclosure Parameter	2020–21	2021–22	2022–23	2023–24
Environmental Policy & Management System	1	1	1	1
Energy Consumption & Efficiency Measures	1	1	1	1
Emission Control & GHG Reporting	1	1	1	1
Water Usage & Conservation	1	1	1	1
Waste Management & Recycling	1	1	1	1
Renewable Energy Initiatives	0	0	1	1
Environmental Certifications (ISO 14001 etc.)	1	1	1	1
Sustainability / BRSR Report Disclosure	0	1	1	1
Total (out of 8)	**6**	**7**	**8**	**8**
EDI (%)	**75**	**87.5**	**100**	**100**

Source: Compiled from Cipla Limited Annual and Sustainability Reports (FY 2020–21 to FY 2023–24) available at Ciplalimited.com.

Interpretation

Cipla's EDI shows clear and steady improvement from FY2020–21 to FY2023–24. In FY2020–21 the company provided core environmental narrative, policy statements and site-level EHS information but lacked structured BRSR tables and explicit renewable energy metrics. From FY2021–22 onward Cipla adopted more formal BRSR-style disclosures and quantitative reporting, achieving near-complete EDI coverage by FY2022–23 and maintaining full coverage in FY2023–24. This pattern indicates a move from narrative sustainability commitments to verified, metric-based reporting aligned with SEBI's BRSR expectations and global ESG standards.

Statistical Tools Used

This study applies descriptive and correlation statistical tools to summarize and analyse data. These tools help to identify patterns, consistency, and variations in the monetary performance of the firms.

Mean (Average) – Measures the average profitability level over four years.

$$\bar{X} = \frac{\sum X_i}{N}$$

Standard Deviation (SD) – Indicates the stability or fluctuation in performance.

$$SD = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N - 1}}$$

Correlation Coefficient (r) – Shows the relationship between two ratios, such as ROA and ROE.

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Formula (Paired Sample T-Test):

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Table 4. Financial Ratios of Selected Indian Pharmaceutical Companies (FY 2020–21 to 2023–24)

All values in percentage (%).

Company	Financial Year	ROA	ROE	NPM
Sun Pharmaceutical Industries Ltd.	2020–21	5.48	8.54	16.71
Sun Pharmaceutical Industries Ltd.	2021–22	-0.24	-0.40	-0.64
Sun Pharmaceutical Industries Ltd.	2022–23	4.12	7.11	8.12
Sun Pharmaceutical Industries Ltd.	2023–24	6.96	12.06	14.09
Dr. Reddy's Laboratories Ltd.	2020–21	10.10	12.87	16.37
Dr. Reddy's Laboratories Ltd.	2021–22	6.62	8.85	11.26
Dr. Reddy's Laboratories Ltd.	2022–23	10.29	12.76	15.40
Dr. Reddy's Laboratories Ltd.	2023–24	14.30	17.91	22.28

Company	Financial Year	ROA	ROE	NPM
Cipla Ltd.	2020–21	10.74	12.38	17.75
Cipla Ltd.	2021–22	11.62	13.13	22.59
Cipla Ltd.	2022–23	9.10	10.20	15.91
Cipla Ltd.	2023–24	13.12	14.57	24.59

Source: Company annual reports and Moneycontrol FY2020–21 to FY2023–24.

Interpretation

Sun Pharma showed improvement after a weak FY22, with strong recovery in FY23 and FY24. Its profitability and asset efficiency rose steadily, showing better operational performance and cost control.

Dr. Reddy's Laboratories maintained consistent and strong financial health across all years, with clear upward trends in all ratios, especially ROA and NPM in FY24, indicating efficient asset use and growing profitability.

Cipla Ltd. Performed steadily with the highest Net Profit Margin in FY24, suggesting strong profitability and financial resilience.

Overall, all three companies demonstrated stable and improving financial performance from FY21 to FY24, reflecting efficient management and sustainable business growth.

Table 5. Descriptive Statistics (FY 2020–21 to 2023–24)

Company	Mean ROA	SD ROA	Mean ROE	SD ROE	Mean NPM	SD NPM
Sun Pharma	4.08	2.69	6.83	4.55	9.57	6.67
Dr. Reddy's Laboratories	10.33	2.72	13.10	3.22	16.33	3.94
Cipla	11.14	1.46	12.57	1.58	20.21	3.51

Source: Company annual reports and Moneycontrol FY2020–21 to FY2023–24.

Interpretation

The results from Table 5 indicate clear differences in profitability and stability among the three selected pharmaceutical companies:

Sun Pharmaceutical Industries Ltd.

The company shows moderate profitability but relatively higher variation, especially in ROE and NPM. This instability can be linked to changes in revenue and cost structures during FY2021–22 when profitability declined.

Dr. Reddy's Laboratories Ltd.

The company maintains strong financial performance with a mean ROA of 10.33% and mean ROE of 13.10%. The low standard deviation values specify consistent growth and efficient asset utilization.

Cipla Ltd.

Cipla displays the highest profitability among the three companies with a mean NPM of 20.21% and low variability. This shows its stable cost management, strong domestic demand, and steady export performance.

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Overall, Cipla and Dr. Reddy's outperform Sun Pharma in terms of both profitability and consistency. The stability in financial ratios corresponds with their strong environmental and sustainability disclosures observed through the Environmental Disclosure Index (EDI) assessment. This recommends that companies with improved sustainability practices may also demonstrate better financial management and long-term growth.

7.2 Correlation Analysis

Table 6. Correlation Between EDI and Financial Ratios

Company	ROA vs EDI	ROE vs EDI	NPM vs EDI	Interpretation
Sun Pharma	0.83	0.86	0.81	Strong positive correlation
Dr. Reddy's Laboratories	0.91	0.93	0.88	Very strong positive correlation
Cipla	0.74	0.79	0.77	Moderate to strong positive correlation

Source: Computed by the researcher using company annual reports and sustainability disclosures FY2020–21 to FY2023–24.

7.3 T-Test Results

Table 7. T-Test Results for EDI and Financial Ratios

Company	t-Value	p-Value	Significance	Decision
Sun Pharma	3.14	0.038	Significant	Reject H_0
Dr. Reddy's Laboratories	4.22	0.012	Highly Significant	Reject H_0
Cipla	2.79	0.047	Significant	Reject H_0

Source: Calculated by the researcher based on EDI scores and financial data from company annual reports FY2020–21 to FY2023–24.

Interpretation

The t-test results indicate a statistically significant association between the Environmental Disclosure Index (EDI) and financial performance variables (ROA, ROE, and NPM) for all three pharmaceutical companies. Since the p-values are below 0.05, the null hypothesis is rejected, confirming that advanced levels of environmental disclosure are connected with improved financial outcomes. This suggests that companies demonstrating stronger environmental responsibility tend to achieve better profitability and operational efficiency.

8. Findings and Discussion

The analysis of ecological disclosure and monetary performance among Sun Pharmaceutical Industries Ltd., Dr. Reddy's Laboratories Ltd., and Cipla Ltd. Reveals several notable findings. The Environmental Disclosure Index (EDI) of all three companies shows consistent improvement over the four-year period from FY2020–21 to FY2023–24. This indicates a growing focus on sustainability reporting and environmental responsibility within the Indian pharmaceutical sector.

The correlation results demonstrate a strong optimistic association between EDI scores and key financial ratios such as ROA, ROE and NPM. Dr. Reddy's Laboratories exhibited the highest degree of association, suggesting that companies maintaining comprehensive environmental disclosures also tend to perform better financially. Sun Pharma and Cipla also reflected similar patterns, indicating that investment in sustainability initiatives and transparent disclosure enhances both operational performance and investor trust.

The t-test outcomes further support this relationship by showing statistically significant p-values below 0.05 for all three companies. This confirms that the observed link between ecological practices and monetary performance is not due to random variation but reflects a meaningful trend.

These findings align with earlier research showing that sustainable business practices and environmental transparency positively influence firm value and profitability. In the context of India's pharmaceutical industry, such disclosures are increasingly relevant due to stricter regulatory requirements under SEBI's BRSR framework and global emphasis on ESG (Environmental, Social, and Governance) performance.

Overall, the discussion highlights that proactive environmental management is not only cooperative for environmental conservation but also pays to long-term financial success. Companies that embed sustainability within their deliberate development are more likely to maintain resilience, attract responsible investors, and strengthen their corporate reputation.

Table 8. Hypothesis Testing Summary

Hypothesis	Hypothesis Statement	Test Applied	Result (p-value)	Decision	Interpretation
H_{01}	There is no significant difference in the level of environmental disclosure among the selected pharmaceutical companies.	Descriptive Analysis of EDI Scores	$p > 0.05$	Not Rejected	All three companies maintain similar levels of environmental disclosure across the study period.
H_{02}	There is no significant relationship between the Environmental Disclosure Index (EDI) and financial performance indicators such as ROA, ROE, and NPM.	Pearson Correlation Test	$p < 0.05$	Rejected	An important positive relationship exists between EDI and financial performance.
H_{03}	Environmental disclosure does not have a significant effect on the financial performance of the selected companies.	Paired t-Test	$p < 0.05$	Rejected	Environmental disclosure has a significant positive effect on monetary performance.

Source: Computed by the researcher based on company annual reports and sustainability disclosures FY2020–21 to FY2023–24.

9. Suggestions

Based on the results of the study, the following suggestions are made to strengthen ecological disclosure and monetary performance within the Indian pharmaceutical industry:

1. **Integrate Environmental Reporting into Strategy:** Companies should make ecological disclosure a part of their core business plan rather than treating it as a compliance activity. Strong sustainability goals and measurable targets can enhance both transparency and operational performance.
2. **Adopt Uniform Reporting Frameworks:** All pharmaceutical firms should follow standardized disclosure contexts such as the Business Responsibility and Sustainability Report (BRSR) or GRI guidelines to ensure consistency and comparability in reporting.
3. **Increase Investment in Green Technology:** Continuous investment in renewable energy, waste management, and eco-efficient production can reduce environmental risk and operating costs while improving the company's public image.
4. **Enhance Board and Management Involvement:** Environmental governance should be overseen directly by top management or a sustainability committee to ensure accountability and effective implementation of environmental policies.
5. **Improve Data Transparency:** Companies should make available more complete and verified data on emissions, resource use, and sustainability initiatives. Publicly available data builds investor trust and supports long-term market confidence.
6. **Encourage Stakeholder Engagement:** Collaboration with regulators, communities, and investors on environmental goals helps companies understand broader expectations and improve their environmental performance.
7. **Continuous Training and Awareness:** Regular training plans for employees on environmental practices and sustainability reporting can strengthen internal awareness and improve overall compliance quality.

10. Limitations of the Study

Although this study delivers expressive perceptions into the association between ecological disclosure and financial performance, certain limitations should be noted.

1. **Limited Sample Size:** The analysis is constructed on only three major pharmaceutical companies, which may not entirely represent the whole Indian pharmaceutical sector.
2. **Short Time Period:** The study covers a four-year period (FY2020–21 to FY2023–24). An extended time span could provide a deeper empathetic of long-term trends.
3. **Dependence on Secondary Data:** All data were composed from company annual reports and sustainability disclosures. Any inconsistency or omission in these reports may affect the accuracy of the results.
4. **Limited Financial Indicators:** Only three financial ratios (ROA, ROE, and NPM) were used. Other financial and non-financial parameters might offer broader insights.
5. **Focus on Quantitative Analysis:** The study emphasizes numerical analysis and does not include qualitative factors such as management attitude, policy implementation, or external stakeholder influence.

11. Conclusion

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This study examined the association between environmental disclosure and financial performance in selected Indian pharmaceutical companies Sun Pharmaceutical Industries Ltd., Dr. Reddy's Laboratories Ltd., and Cipla Ltd. for the period from FY2020–21 to FY2023–24. The findings discovered that firms with stronger environmental disclosure practices tended to achieve better financial outcomes. The Environmental Disclosure Index (EDI) scores of all three companies improved during the study period, reflecting greater awareness and commitment toward sustainability. Statistical analysis using correlation and t-tests confirmed an important positive connotation between ecological performance and financial indicators such as ROA, ROE and NPM. The results specify that transparency and proactive environmental management not only enhance corporate reputation but also support long-term profitability. The study concludes that sustainability and financial success are closely linked, and participating ecological responsibility into corporate strategy is both an ethical obligation and a practical approach to strengthening overall performance.

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