MEASURING THE BENEFITS OF PROPER UTILISATION OF ENVIRONMENT ACCOUNTING & REPORTING PRACTICES: IN THE CEMENT COMPANIES OF INDIA

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Abstract

Environmental accounting concept has risen in prominence in recent years, when businesses started taking environmental responsibility. It was crucial that the accounting industry adapt to the new normal. In particular, when corporations rely heavily on annual reports as a channel for communicating about environmental and social concerns, these shifts have far-reaching consequences for financial reporting. One definition of environmental accounting is the study of the financial implications on natural capital, both in terms of money and quality. The present section attempts to analyse the Benefits of Proper utilisation of Environment Accounting & Reporting Practices. The data is then analysed using the Multiple regressions test to find out the benefits of the proper utilisation of the environmental accounting technique. The results are presented in this study.

Keywords: Environmental Accounting and Reporting, Cement Companies, Multiple Regression Analysis, Benefits of Environmental Disclosures.

Introduction

In recent decades, the topic of environmental protection has moved from peripheral discussion to a central global priority. Nations, businesses, and communities are increasingly aware that human activities are inflicting irreversible damage on the natural ecosystem. This damage is not the result of a single factor; rather, it stems from the combined pressures of population growth, technological expansion, urbanization, and economic development. Among these pressures, industrialization stands out as a major contributor. While industries are indispensable for economic growth, employment generation, infrastructure development, and innovation, they simultaneously pose extensive risks to ecological stability. The challenge, therefore, is not to halt industrial progress but to ensure that it evolves in a sustainable, responsible, and environmentally sensitive manner.

The environmental consequences of rapid industrialization are wide-ranging. Industrial operations frequently result in air pollution, water contamination, soil degradation, excessive extraction of natural resources, greenhouse gas emissions, toxic waste generation, and accumulation of hazardous by-products. Each of these forms of pollution disrupts ecological balance, threatens human health, and imposes significant long-term costs on society. Airborne pollutants emanating from factories contribute to respiratory illnesses, smog formation, and global warming. Effluents

discharged into rivers and lakes compromise aquatic ecosystems and contaminate drinking water sources. Solid and hazardous waste, if improperly treated, accumulates in land and water bodies, leading to chronic ecological hazards. Thus, industrial growth, if not regulated responsibly, becomes a double-edged sword fueling development on one side and environmental deterioration on the other.

Amid these growing concerns, the corporate world has been compelled to rethink its role in environmental stewardship. This shift is closely linked to the emergence of environmental accounting and reporting, a relatively new yet rapidly expanding branch of accounting. Historically, accounting focused primarily on financial transactions, profitability, asset valuation, and shareholder returns. Environmental costs—such as pollution control, waste management, resource depletion, or ecological restoration—were either ignored or inadequately represented in financial statements. However, with greater awareness, stakeholder activism, stricter regulations, and international commitments such as the Paris Agreement, businesses have begun to recognize that environmental performance has direct and measurable financial implications.

Understanding Environmental Accounting

Environmental accounting refers to the **identification, measurement, analysis, and communication of environmental costs and benefits** associated with an organization's economic activities. It captures the environmental impacts of business operations in monetary and non-monetary terms, thereby providing a more holistic picture of corporate performance. Instead of focusing solely on profits and losses, environmental accounting examines questions such as:

- How much pollution is being generated?
- What costs are associated with waste management or compliance with environmental laws?
- How efficiently are natural resources being used?
- What investments are being made in cleaner technologies?
- What are the long-term liabilities associated with environmental degradation?

By integrating ecological considerations into accounting systems, organizations gain a clearer understanding of the environmental aspects of their operations. This approach enables them to adopt preventive strategies, improve resource efficiency, and plan long-term sustainability initiatives. It also increases transparency and accountability toward stakeholders who are increasingly demanding ethical and environmentally responsible business practices.

Environmental Accounting in the Broader Context of Sustainable Development

Sustainable development, as defined by the Brundtland Commission, emphasizes meeting present needs without compromising future generations' ability to meet their own. To achieve this equilibrium, organizations must align their economic goals with ecological responsibility and social well-being. Environmental accounting facilitates this alignment by ensuring that environmental externalities traditionally overlooked are now integrated into organizational assessments.

This integration supports sustainable development in several ways:

1. **Internal Decision-Making Improvement:** Managers can evaluate the true costs of environmental impacts and make informed decisions about investments in pollution control, recycling initiatives, or cleaner technologies.
2. **Enhanced Corporate Accountability:** Transparent reporting assures stakeholders customers, investors, regulators, and communities that the company is committed to sustainability and compliance.
3. **Regulatory Compliance:** Many industries now operate under stringent

environmental regulations. Environmental accounting helps track compliance costs and reduces the risk of penalties.

4. **Long-Term Financial Sustainability:** Eco-friendly practices often result in cost savings through reduced energy consumption, efficient resource use, and waste minimization.

5. **Reputation and Competitive Advantage:** Organizations that demonstrate environmental responsibility earn public trust, gain market preference, and enhance brand value.

Emergence of Environmental Reporting

Environmental reporting extends environmental accounting by disclosing environmental information to internal and external stakeholders. Such reporting may include:

- Environmental management systems
- Carbon emissions data
- Waste generation statistics
- Initiatives in renewable energy or green technologies
- Compliance with environmental standards
- Corporate social responsibility (CSR) statements

Over the past decade, environmental reporting has evolved from voluntary disclosures to an essential corporate practice. Global frameworks such as the **Global Reporting Initiative (GRI), ISO 14001 environmental management systems, and Sustainability Accounting Standards Board (SASB)** provide guidelines for consistent and credible reporting. In India, mandatory CSR under the Companies Act, 2013, and increasing pressure from regulatory bodies such as the Central Pollution Control Board (CPCB) have further strengthened environmental disclosures.

Industry Perspective: Why Environmental Accounting Matters

Industries across the world are realizing that environmentally responsible practices are not merely ethical obligations but are integral to business efficiency and profitability. Several benefits arise when industries incorporate environmental accounting:

1. Efficient Resource Utilization: Industries that track environmental inputs and outputs often identify opportunities to minimize resource wastage. This can significantly reduce the consumption of raw materials, energy, and water, thereby lowering operational costs.

2. Waste Reduction and Recycling: By understanding waste generation patterns, companies can develop recycling programs that convert waste into reusable materials. For example, many chemical and manufacturing industries have found value in reprocessing waste by-products, resulting in substantial cost savings.

3. Cleaner Production Technologies: Investment in cleaner and energy-efficient technologies not only reduces pollution but also enhances productivity. Industries that proactively upgrade their systems gain long-term competitive advantages.

4. Risk Identification and Mitigation: Environmental accounting helps identify potential environmental risks, such as toxic emissions or hazardous waste accumulation. Early detection enables timely corrective measures, reducing environmental harm and legal liabilities.

5. Enhanced Corporate Image: Consumers today prefer brands that demonstrate social and environmental responsibility. Transparent environmental reporting enhances trust and strengthens corporate reputation.

The Indian Context: Growing Relevance in Cement Industry

The cement industry in India is among the most energy-intensive and environmentally challenging sectors. Cement production involves extraction of limestone, high-temperature processing, and release of substantial carbon dioxide emissions. The industry also consumes large quantities of water and generates dust and solid waste. Thus, for India's cement companies,

adopting environmental accounting is not optional, it is essential.

Over the last few years, Indian cement companies have been increasingly pressured to:

- Reduce carbon intensity,
- Adopt energy-efficient processes,
- Implement waste heat recovery systems,
- Utilize industrial waste such as fly ash and slag,
- Align with national commitments on carbon reduction.

Environmental accounting enables these companies to evaluate their ecological impact, quantify environmental costs, assess investment effectiveness, and design sustainability strategies. Companies that systematically adopt environmental accounting practices often report improvements in operational efficiency, cost reduction, and stakeholder confidence.

Growing Corporate Awareness and the Shift Toward Environmental Governance

The contemporary business environment is characterized by heightened awareness of environmental issues. Boards of directors, investors, and regulatory authorities recognize that environmental negligence can lead to severe financial and reputational consequences. As a result, the concept of environmental governance integrating environmental considerations into corporate strategy has gained momentum. Businesses are now adopting frameworks such as:

- Environmental Management Accounting (EMA)
- Life Cycle Costing
- Material Flow Cost Accounting
- Circular economy initiatives
- Green supply chain management

These frameworks assist in tracking not just the costs of pollution but also the benefits of environmental investments. For instance, recycling waste heat within a cement plant can significantly reduce energy costs, while reducing greenhouse gas emissions improves environmental compliance.

Need for Critical Evaluation of Industrial Processes

Environmental accounting encourages industries to undertake a systematic review of their processes, technologies, and waste management practices. Such evaluations enable companies to identify inefficiencies, redesign workflows, and predict potential pollution-related risks. For industries like cement manufacturing—where emissions and waste generation are substantial—periodic environmental review is crucial for sustainable operation.

This process not only benefits the environment but also enhances corporate profitability through lower production costs, better risk management, and improved resource productivity. Companies that consistently evaluate and improve their sustainability performance tend to achieve long-term resilience and market leadership.

The present research critically examines and quantifies the benefits arising from the adoption of environmental accounting and reporting practices in Indian cement companies. The cement sector, being one of the most polluting industries in the country, provides an ideal environment to study how environmental accounting influences operational efficiency, cost structures, compliance practices, and sustainability outcomes.

Through this analysis, the research aims to highlight the significance of environmental accounting as a tool for responsible industrial management and sustainable development in India.

Reviews of literature

Qian, W., Tilt, C., & Belal, A. (2021) highlighted that this publication reviews the latest "social and environmental accounting" (SEA) advancements in underdeveloped nations and provides insights for current research. Three contextualisation methods to examine "regulatory, political, cultural and religious, and social-economic

systems". Most of the essays in this special issue employ institutional theory and its expansions to address political and cultural difficulties in developing nation SEA literature, despite the usage of other conceptual lenses.

Dutta, P. P. (2020) shown that environmental Accounting helps one comprehend an organization's environmental safety and welfare efforts. As a corporate citizen, a company must act responsibly. Its behavior toward the environment and society must be evaluated like its economic success. Several laws have been introduced and updated to demand corporate social responsibility for Indian environmental development. This research study examines environmental accounting, its procedures, legal difficulties, and Numaligarh Refinery Limited's Environment Accounting and Reporting Practice in Golaghat, Assam (India).

Tahajuddin, S., Xin, Z., & Kassim, A. W. M. (2020) revealed that Chinese SME clients in Shanxi province were able to force environmental accounting reporting. Supplier pressure does not affect environmental accounting reporting, the research revealed. This research shows that "consumers care about environmental concerns because environmental accounting reports may increase the profitability of SMEs in terms of environment, cost, high-efficiency technology, and low-pollution, non-polluting goods, allowing customers to purchase cheaper and better items".

Bhattarai, B. P. (2018) used two EDS (environmental disclosure score) weights to meet research goals from 1998 to 2012. Secondary data analysis of sample firms was based on empirical study from various nations. EDS was determined for each year using equal and unequal weights. The score sheet's 23 environmental disclosure elements were used to examine the company's annual reports. Secondary data analysis includes descriptive statistics, correlation, and regression. The research empirically evaluates corporate features and EDS in Nepalese listed sample enterprises. It's conclusive.

Adagye, D. I., & Abubakar, S. B. (2018) shown that environmental accounting helps grasp the economy's natural environment values and functions. In order to ensure that environmental accounting is appropriately introduced, acknowledged, and included in final accounting and financial statements that users of such information require, it suggested practical efforts by individual firms and companies, civil societies and organisations, regulatory bodies, policy makers, and professional accounting bodies. This will significantly help to address the lack of resources required to address the massive issues and costs..

Otu, Okon & Nnanna, (2018) The performance of the oil companies was assessed through various financial metrics, including return on capital employed (ROCE), net profit margin (NPM), dividends per share (DPS), and earnings per share (EPS). The statistical method employed for hypothesis testing is multiple linear regression. The analysis revealed that there are negligible correlations between environmental accounting reporting and various performance metrics, specifically return on capital employed (P = 0.175), net profit margin (P = 0.95), earnings per share (P = 0.423), and dividend per share (P = 0.542). In light of the findings, it is advisable for the government to mandate environmental disclosure and to enforce penalties for any infractions committed by oil companies in Nigeria. It is imperative that compliance by these companies is treated with utmost seriousness to ensure the preservation of the environment, thereby fostering economic growth and development.

Shakkour, A., Alaodat, H., Alqisi, E., & Alghazawi, A. (2018) noted that Accountants hold a significant position of authority in the realm of financial reporting, particularly concerning the rights and obligations that emerge from emissions trading schemes within the context of financial carbon accounting. In conclusion, the summary of the review highlights that effective environmental accounting practices are essential for sustainable development. This is particularly important when considering environmental taxes, costs, the valuation of ecosystem services, the cost associated with carbon dioxide emissions, and the expenses related to water pollution, all of which contribute to achieving sustainability.

Adeline (2017) revealed that The government of Malaysia has urged companies to embrace green strategies, highlighting green technology as a

crucial component in driving the nation's green economy. In early 2009, the ministry responsible for energy, green technology, and water was established with the aim of transforming Malaysia into a greener economy and nation. This research should take place in Malaysia to enhance corporate decision-making regarding investments in green strategies, as the country moves towards a green economy. This study contributes to our understanding of the development and evolution of finance, emphasising its importance in today's green economy.

Lee, K.-H., Park, B.-J., Song, H., and Yook, K.-H. (2017) Environmental audits are implemented internally in order to monitor compliance with environmental laws, regulations and related accounting rules, and to develop recommendations for ways in which to improve environmental accounting processes and performance. In addition, external third-party assurance on environmental information is used to verify whether firms' disclosures on environmental information are in compliance with environmental accounting rules and regulations. The study investigates the impact of environmental audits conducted by firms on their market values, as well as the role of third-party assurance in enhancing these positive effects, grounded in value relevance theory. The primary assessments are derived from the environmental reports published by 266 Japanese manufacturing firms during the years 2010 to 2013. Research indicates that firms that engage in environmental audits experience an average market value that is 9 percent higher compared to those that do not undertake such practices. Moreover, the findings indicate that environmental audits have a beneficial impact on the value of firms, primarily through their engagement with third-party assurance.

Linnenluecke, M. K., Birt, J., Chen, X., Ling, X., and Smith, T. (2017) used This study employs bibliographic mapping techniques to explore the research dialogue within four Pacific Basin accounting journals recognised in the Social Sciences Citation Index: Abacus, Accounting and Finance, Australian Accounting Review, and the Australian Journal of Management. Our analysis highlights the primary research themes present in these journals, which include Accounting Standards, Environmental Accounting, Earnings Management, Disclosure, Conservatism, Auditing, Impairment, Cost of Capital, and Corporate Governance. The authors provide a thorough examination of each research stream, highlight emerging trends in the field, and propose a thoughtful agenda for future studies on accounting in the Pacific Basin.

Masud, M., Kaium, A., Bae, S. M., & Kim, J. D. (2017) shown that Bangladesh faces a range of ecological challenges, such as air and water pollution, soil degradation, and issues related to waste management. Bangladesh faces significant challenges related to air and water pollution, land degradation, and the management of waste. This study explored 12 significant aspects of environmental accounting and reporting within the context of listed banks in Bangladesh. Data was obtained from the annual reports of 20 banks listed on the Dhaka Stock Exchange for the years 2010 to 2014. The banks provided environmental information across the 12 categories. Banks provided the most comprehensive environmental information regarding green banking and renewable energy initiatives, while they offered the least information on environmental recognition and waste management practices. The percentage of environmental disclosure increased significantly, rising from 16% in 2010 to 83% in 2014. The recent environmental disclosure measures implemented by Bangladesh Bank have been evaluated, revealing results across 12 categories that hold important implications for both corporate and government policymakers. It is essential for Bangladeshi professional accounting groups, alongside both international and domestic policymakers, to develop a distinct conceptual framework for environmental accounting and reporting that encompasses both the financial and non-financial sectors.

Razeed (2017) examined American resource corporations' voluntary environmental disclosures online compared in paper form. This research examined shifting VED disclosure incentives in hard copy and Online reports. This research analyzed 102 of 300 firms in 2000, 2004, and 2008. This research created a 20-item

environmental disclosure index using CERES Guidelines, KPMG, and GRI. The environment index generated a disclosures score sheet. The predictors were regressed against the degree of environment disclosure score. Analysis uses dependent and independent variables. Environmental disclosure was dependent and overall assets, economic performance, and leverage were independent. Larger corporations provided more optional environmental information in hardcopy reports than smaller ones. Larger enterprises with better economic success disclosed more environmental information online. The research indicated that US corporations' incentive to provide VED information in hardcopy reports and online hasn't changed over time.

Research Methodology

In chapter three, it is noted that the sample comprises seven selected cement companies, which include Aditya Birla's UltraTech Cement Limited, Binani Cement Limited, JK Cement Limited, Wonder Cement Limited, Shree Cement Company, India Cement Company, and ACC Cement Company. These companies were chosen to examine disclosure practices, as the remaining units did not provide the necessary data for the specified study period. The current study gathers primary data through observation and survey methods. Conducting surveys by engaging directly with respondents through questionnaires and personal interviews will facilitate the collection of primary data. Secondary data can be sourced from a variety of materials, including journals, articles, annual reports published by the chosen companies, newspapers, and other relevant books. The primary data for the study is collected by survey method using structured questionnaire. Performing surveys through direct communication with respondents through questionnaire and personal interview helped in collecting primary data. By taking 80 samples from each company total 400 samples were collected through primary data questionnaire.

Comparing Inter-company Eds Score

A hypothesis has been developed to examine the variations in disclosure practices among different continents.

Hypothesis 1 (null): All suggested benefits to company by disclosing environment information are found equally significant.

To test this relation, multiple regression (stepwise) technique is used. Regression analysis serves as a statistical method that helps us understand and estimate the connections between different variables. This encompasses various techniques for modelling and analysing multiple variables, particularly emphasising the relationship between a dependent variable and one or more independent variables. Regression analysis provides insight into how the average value of the dependent variable, often referred to as the 'Criterion Variable,' is influenced by changes in any single independent variable, while keeping the other independent variables constant.. The results of the test are as under:

Table 1: Stepwise Multiple Regression- Benefits

Descriptive Statistics				
Particular	**SPSS Code**	**Mean**	**SD**	**N**
Your cement company benefit from Environment Accounting & Reporting Practices	BenPEAR	3.0600	1.10429	400
Required for long term sustainability and sustainable future	BenPEAR_1	3.2900	.87051	400
Improved image of the Cement or company	BenPEAR_2	3.4350	.70499	400
Better accounting methods and data	BenPEAR_3	3.7450	.73915	400

Compare environment costs and benefits	BenPEAR_4	3.5900	.64260	400
Improves the cement company's image	BenPEAR_5	3.9125	.84654	400
Improves the cement company's CSR	BenPEAR_6	3.6125	.97966	400
Improves the cement company's Profitability	BenPEAR_7	3.5250	.97814	400
Improves the cement company's long term sustainability	BenPEAR_8	3.7575	1.01552	400

Correlations

		BenPEAR	BenPEAR_1	BenPEAR_2	BenPEAR_3	BenPEAR_4	BenPEAR_5	BenPEAR_6	BenPEAR_7	BenPEAR_8
Pearson Correlation	BPEAR	1.00	.039	.198	-.079	.010	.193	.439	.412	.187
	BPEAR_1	.039	1.000	-.133	.022	.106	.310	.141	.286	.287
	BPEAR_2	.198	-.133	1.000	-.143	-.059	-.133	.031	.017	.200
	BPEAR_3	-.079	.022	-.143	1.000	.101	.161	-.068	-.064	-.059
	BPEAR_4	.010	.106	-.059	.101	1.000	.044	.014	-.087	.043
	BPEAR_5	.193	.310	-.133	.161	.044	1.000	.352	.370	.051
	BPEAR_6	.439	.141	.031	-.068	.014	.352	1.000	.600	.472
	BPEAR_7	.412	.286	.017	-.064	-.087	.370	.600	1.000	.522
	BPEAR_8	.187	.287	.200	-.059	.043	.051	.472	.522	1.000
Sig. (1-tailed)	BPEAR	.	.217	.000	.056	.421	.000	.000	.000	.000
	BPEAR_1	.217	.	.004	.332	.017	.000	.002	.000	.000
	BPEAR_2	.000	.004	.	.002	.120	.004	.271	.368	.000
	BPEAR_3	.056	.332	.002	.	.022	.001	.089	.101	.119
	BPEAR_4	.421	.017	.120	.022	.	.188	.392	.041	.195
	BPEAR_5	.000	.000	.004	.001	.188	.	.000	.000	.154
	BPEAR_6	.000	.002	.271	.089	.392	.000	.	.000	.000
	BPEAR_7	.000	.000	.368	.101	.041	.000	.000	.	.000
	BPEAR_8	.000	.000	.000	.119	.195	.154	.000	.000	.
N		400	400	400	400	400	400	400	400	400

Model Summary

Mod	R	R2	Adjusted R2	SE	Change Statistics				
					R2 Square	F	df1	df2	Sig. F
4	.529[d]	.279	.272	.94208	.018	10.094	1	395	.002

ANOVA[a]						
Model		SS	df	MS	F	Sig.
4	Regression	135.992	4	33.998	38.307	.000[e]
	Residual	350.568	395	.888		
	Total	486.560	399			

Coefficients[a]											
Model		Unstandardized Coefficients		St. Coeff.	t	Sig.	r			CS	
		B	SE	Beta			o-order	Part	Part	Tol	VIF
4	(Constant)	.045	.301		.151	.880					
	BenPEAR_6	.377	.062	.334	6.084	.000	.439	.293	.260	.605	1.653
	BenPEAR_7	.333	.064	.295	5.186	.000	.412	.252	.221	.563	1.776
	BenPEAR_2	.339	.069	.217	4.939	.000	.198	.241	.211	.949	1.054
	BenPEAR_8	-.183	.057	-.168	-3.177	.002	.187	-.158	-.136	.653	1.531
a. Dependent Variable: BenPEAR											

Excluded Variables[a]								
Mod.		Beta In	t	Sig.	Par. r	CS		
						Tol	VIF	Min. tol.
4	BenPEAR_1	-.018[e]	-.389	.697	-.020	.854	1.171	.546
	BenPEAR_3	-.018[e]	-.405	.686	-.020	.975	1.026	.563
	BenPEAR_4	.053[e]	1.218	.224	.061	.971	1.030	.551
	BenPEAR_5	.005[e]	.102	.918	.005	.782	1.278	.521
a. Dependent Variable: BenPEAR								
e. Predictors in the Model: (Constant), BenPEAR_6, BenPEAR_7, BenPEAR_2, BenPEAR_8								

Collinearity Diagnostics[a]								
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	BenPEAR_6	BenPEAR_7	BenPEAR_2	BenPEAR_8
4	1	4.850	1.000	.00	.00	.00	.00	.00
	2	.070	8.335	.04	.10	.13	.26	.01
	3	.036	11.609	.03	.24	.01	.00	.89
	4	.027	13.311	.01	.61	.79	.00	.08
	5	.017	17.033	.92	.05	.06	.73	.01
a. Dependent Variable: BenPEAR								

The summary of regression result revealed:

Adjusted R^2 value (The Accuracy of the Model) = 0.272

ANOVA F value (the Model Fitness Index) = 38.307

Sig. in ANOVA (Model fitness for Future) = .000

Dependent Variable = BenPEAR (cement company benefit from Environment Accounting & Reporting Practices)

Independent Variable Selected for the model = BenPEAR_6, BenPEAR_7, BenPEAR_2, BenPEAR_8

The descriptive results offer an initial understanding of respondents' perceptions regarding the benefits of Environmental Accounting and Reporting (EAR) in cement companies. Across nine benefit-related items, the mean values range from 3.06 to 3.91, indicating that respondents generally hold a moderately positive to highly positive view of EAR practices. The lowest mean (3.06) corresponds to the general statement that the cement company benefits from EAR, suggesting slightly mixed perceptions on overall impact. The highest mean (3.91) is observed for "Improves the cement company's image," signifying that enhancement of brand image is perceived as the most substantial outcome. Items such as "better accounting methods" (3.75), "improved long-term sustainability" (3.76), and "comparison of environmental costs and benefits" (3.59) also reflect favorable responses. The standard deviations (SD) between 0.64 and 1.10 suggest moderate variability in responses. A sample size of N = 400 strengthens the reliability of the descriptive trends.

The stepwise regression model identifies four key predictors that significantly contribute to explaining perceived EAR benefits: CSR improvement, profitability enhancement, corporate image improvement, and long-term sustainability. The final model demonstrates a moderate predictive ability with an R-value of .529, while the R^2 value of .279 indicates that approximately 27.9% of the variance in overall perceived benefits is accounted for by these four factors. The adjusted R^2 of .272 suggests that the model remains robust even after adjusting for sample size and number of predictors. The standard error of 0.942 reflects acceptable prediction accuracy. Importantly, the incremental R^2 change of .018, accompanied by a significant p-value of .002, confirms that the last variable added to the model meaningfully enhances the model's explanatory power. Overall, the model is suitably

strong for perception-based studies and indicates that approximately one-third of respondents' perceptions can be explained by the selected predictors.

The ANOVA findings validate the statistical significance of the overall regression model. With an F-statistic of 38.307 and a p-value below .001, the results confirm that the selected predictors collectively provide a strong explanation for variations in perceived EAR benefits. This implies that the model performs substantially better than a model with no predictors and that the included variables meaningfully contribute to predicting overall perceptions. The large F-value underscores the robustness of the relationship between the predictors and the dependent variable.

The coefficients table provides deeper insight into the individual contribution of each significant predictor. CSR improvement emerges as the strongest predictor, with a coefficient of 0.377 and a beta value of 0.334, meaning that enhanced CSR perceptions are closely linked to overall EAR benefits. Profitability enhancement also plays a significant role, reflected through a coefficient of 0.333 and beta of 0.295, reinforcing the view that respondents acknowledge financial gains as a central EAR outcome. The company's image improvement, with a coefficient of 0.339 and beta of 0.217, further demonstrates that respondents strongly associate EAR with reputational value. Interestingly, the long-term sustainability variable shows a negative coefficient (–0.183), despite being statistically significant. This indicates that as perceptions of long-term sustainability rise, the overall perceived benefit may slightly decline, possibly due to conceptual overlap or respondent confusion between general sustainability and specific EAR outcomes. However, the VIF of 1.531 suggests that this is not due to multicollinearity. The combined regression equation reflects the net effect of these variables, demonstrating that CSR, profitability, and image-related benefits remain the primary drivers of overall EAR perception.

The collinearity diagnostics affirm that multicollinearity is not a concern in this model. The distribution of eigenvalues and condition indices remains within acceptable limits, indicating that no single dimension disproportionately dominates the variance structure. Similarly, the variance proportions do not show clustering around any single predictor. VIF values falling between 1.054 and 1.776 confirm that none of the predictors demonstrate problematic collinearity. These results enhance confidence in the stability and reliability of the regression coefficients and support the integrity of the interpretive insights derived from the model.

Conclusion

The results with the value of adjusted R square 19% reveals that for the dependent variable BenPEAR (cement company benefit from Environment Accounting & Reporting Practices) and 4 independent variables BenPEAR_6, BenPEAR_7, BenPEAR_2, BenPEAR_8 are showing the significant contribution for protection and conservation and Natural Resources and benefits to cement companies. The results are driven from respondent perception towards environmental benefits by cement companies. The above stated that the model is found fit with the Value of ANOVA 38.307 which is Significant ($p<0.05$). The variable like improved image of the Cement or company (BenPEAR_2), Improves the cement company's CSR (BenPEAR_6), Improves the cement company's Profitability (BenPEAR_7) and improves the cement company's long term sustainability (BenPEAR_8) are found significant to contribute towards benefits by protection and conservation of Natural Resources by cement companies in India.

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