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Evaluating the Effect of CSR Initiatives on Achieving Sustainable Development in India

Purpose: This research paper aims to investigate the intricate relationship between Corporate Social Responsibility (CSR) initiatives and sustainable development in India, focusing on how CSR efforts impact environmental sustainability, education, and health-care expenditures, as well as renewable energy generation and capacity.

Methodology: This paper explores the effect of CSR contributions on key sustainability measures between 2016 and 2021 using secondary data from credible sources, such as the national CSR website and the government publications. The study uses regression analysis to better understand the relationship between CSR activities and a variety of outcomes, such as renewable energy production (E-RES), CO₂ emissions, renewable energy capacity (RECAP), and education and health spending.

Findings: The results show significant positive correlation between CSR initiatives and e-RES, RECAP, education and health-care expenditures, indicating that enhanced CSR efforts contribute to progress in these areas. However, no significant association was found between changes in CSR and CO₂ emissions, suggesting that more targeted strategies may be needed to reduce carbon footprint.

Originality: This paper contributes to the existing literature by providing empirical insights into the multifaceted impact of CSR on sustainable development in the Indian context. It highlights the importance of CSR as a catalyst for positive social change while identifying the environmental challenges, especially the shortcomings with regard to carbon emissions.

Keywords: Corporate Social Responsibility (CSR) – Sustainable Development – Renewable Energy – Education Expenditure – Health Expenditure – CO₂ Emissions – India

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Introduction

CSR serves as a self-regulatory framework for businesses, fostering social accountability towards stakeholders and the broader public. Its multifaceted nature allows companies to make positive contributions to society, enhance their brand image, and take actions to reduce their environmental and societal footprint. CSR initiatives span a wide spectrum, addressing various social, economic, and environmental issues and manifesting differently across diverse industries. The concept of “CSR aligns with the principles of sustainable development, which seeks to meet the current needs without compromising the ability of future generations to meet their own requirements. Sustainable development hinges on achieving a harmonious balance between economic, social, and environmental dimensions of well-being. By aligning corporate practices with societal goals and values, CSR plays a pivotal role in advancing the cause of sustainable development.”

CSR has emerged as a fundamental concept within the domains of business ethics and sustainability. The evolving landscape of global commerce is increasingly intertwined with the society's growing expectations of ethical behavior, accountability, and sustainability. This shift in perspective is not a passing trend; rather it is a defining characteristic of the contemporary business environment. Corporations, once primarily fixated on profit generation, are now under mounting pressure to extend their focus beyond financial gains and embrace a more extensive responsibility for the well-being of society and the environment in which they operate. CSR encompasses a spectrum of principles and practices; but at its heart, it signifies a voluntary commitment by corporates to conduct their operations with consideration for the interests of not only shareholders but including also the broader array of stakeholders, employees, customers, communities, and the environment (Elkington, 1998).

CSR initiatives, such as environmentally responsible practices, community engagement and ethical governance resonate deeply with the sustainable development agenda. The academic discourse and empirical evidence highlight the potential of CSR to not only enhance corporate reputation and competitiveness but also to advance environmental conservation, social welfare and economic equity (Marrewijk, 2003). The nexus between CSR and sustainable development has become increasingly clear. Sustainable

development, a term introduced by the Brundtland Commission (1987), seeks to harmonize economic progress, social equity and environmental preservation. CSR is regarded as a catalyst for companies to contribute to sustainable development in the modern world, when the problems of social injustice, resource depletion and climate change are felt most keenly (Epstein & Buhovac 2017).

This research paper embarks on a comprehensive exploration of the intricate relationship between CSR initiatives undertaken by businesses and the pursuit of sustainable development. Ascertaining the impact and efficacy of CSR programs in the businesses is vital to evaluate their contributions to society and the environment. By analyzing and comparing CSR efforts across these two categories aim to provide valuable insights into how corporations can better align their activities with sustainable development goals.

Literature Review

Corporations undertake CSR initiatives with the aim of enhancing the well-being of the communities and environments in which they operate, spanning social, economic, and environmental aspects. These actions exemplify the corporates' commitment to societal progress and accountability. CSR endeavors to offer various advantages to enterprises, including bolstering their reputation, attracting and retaining a skilled workforce, and increasing their customer loyalty. Notably, CSR initiatives can wield significant influence in advancing sustainable development in India – a nation grappling with multifaceted challenges such as poverty, inequality, environmental degradation, and climate change. This study seeks to explore the existing research on the impact of CSR initiatives in the pursuit of sustainable development in India, with a specific focus on the key dimensions of social, economic, and environmental progress.

Social dimension: CSR initiatives can help address some of the social issues that still affect India, such as illiteracy, lack of focused education, ill health, gender inequality, and human rights violations even in the 21st century. For example, a study by Chaudhary *et al.* (2019) found that CSR initiatives by Indian banks improved the financial literacy and inclusion of rural women, which in turn enhanced their empowerment and well-being. Another study by Kumar *et al.* (2018) showed that CSR initiatives by Indian pharmaceutical companies improved the accessibility and affordability of essential

medicines for low-income patients, which reduced disease burden and increased the quality of their lives. Moreover, a study by Singh *et al.* (2017) revealed that CSR initiatives by Indian IT companies have increased the employability and skilling of disadvantaged youth, which enabled them to secure better jobs and earn higher incomes.

Economic dimension: CSR initiatives can also contribute to the economic development of India by creating employment opportunities, fostering innovation, and enhancing productivity and competitiveness. For instance, a study by Sharma *et al.* (2020) found that CSR initiatives by Indian manufacturing firms increased their operational efficiency and profitability, which also benefited their stakeholders and society at large. Another study by Gupta *et al.* (2019) showed that CSR initiatives by Indian service firms stimulated their innovation capabilities and performance, which also generated positive spillovers benefitting their customers and suppliers. Furthermore, a study by Mishra *et al.* (2018) revealed that CSR initiatives by Indian mining companies created local employment and better income opportunities, which also supported the livelihoods and development of the communities they operated in.

Environmental dimension: CSR initiatives can also have a positive impact on the environmental sustainability of India by reducing pollution, conserving resources and mitigating climate change. For example, a study by Jain *et al.* (2019) found that CSR initiatives by Indian cement companies reduced their greenhouse gas emissions and energy consumption, which also lowered their environmental costs and risks. Another study by Roy *et al.* (2018) showed that CSR initiatives by Indian textile companies reduced their water consumption and waste generation, which also improved the water quality and its better management. Moreover, a study by Khan *et al.* (2017) revealed that CSR initiatives by Indian oil and gas companies increased the use of renewable energy sources and technologies, which also enhanced their energy security and diversification.

In conclusion, this literature review has shown that CSR initiatives can have a significant effect on achieving sustainable development in India by addressing some of the social, economic, and environmental challenges that the country faces.

Objectives

1. To assess how Corporate Social Responsibility (CSR) initiatives align with the

sustainable development goals (SDGs) set by the Government of India, with particular focus on environmental sustainability, education, and healthcare.

2. To provide actionable policy recommendations that encourage corporations to enhance their CSR contributions in areas critical to sustainable development, such as renewable energy, education, and healthcare, simultaneously addressing gaps in the current environmental policy.

Hypotheses

1. Alternative Hypothesis (Ha1): CSR has statistically significant impact on change in CO2 emissions (MT).
2. Alternative Hypothesis (Ha2): CSR has statistically significant impact on E-RES.
3. Alternative Hypothesis (Ha3): CSR has statistically significant impact on RECAP.
4. Alternative Hypothesis (Ha4): CSR has statistically significant impact on EdExp.
5. Alternative Hypothesis (Ha5): CSR has statistically significant impact on HlthExp.

Data, Variables and Methodology

Data: Secondary sources are used to acquire data for the present study. The National CSR Gov.in website has been instrumental in collecting CSR contributions from various Indian companies. Electricity Generation from RES and Renewable energy capacity data was gathered from statista.com. Education Expenditure and Health Expenditure data was gathered from pib.gov.in. CO2 emissions data was gathered from ourworldindata.org.

Period of the Study: This research spans the years from 2016-2017 to 2020-2021.

Study Variables: In this research paper, the study variables encompass a range of critical factors related to the evaluation of CSR initiatives and their impact on sustainable development in India. The primary independent variable is the "CSR" which represents the extent of CSR activities undertaken by various entities. The dependent variables under investigation include:

1. *"Electricity Generation from Renewable Energy Sources (E-RES) in billion units"* – assessing the influence of CSR on renewable energy generation;

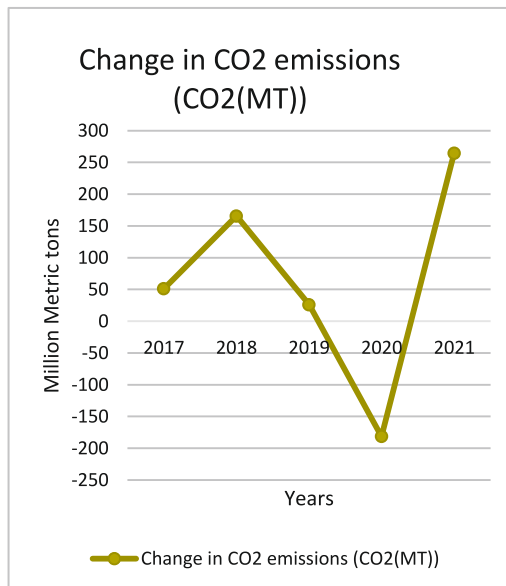
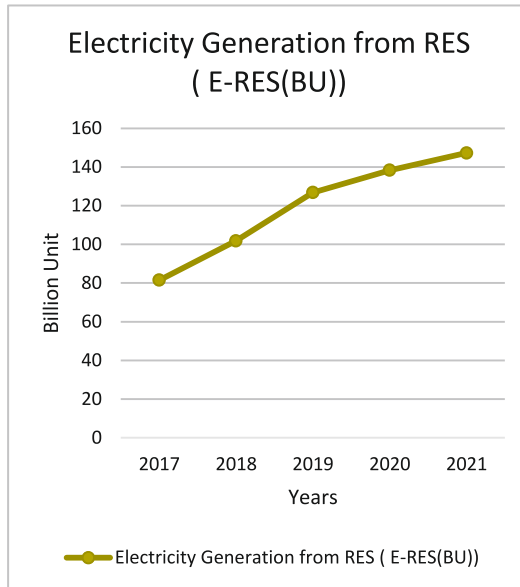
2. "Change in CO₂ emissions (MT)" – examining the connection between CSR and change in carbon dioxide emissions;
3. "Renewable Energy Capacity (RECAP) in megawatts" – gauging the relationship between CSR and renewable energy infrastructure;
4. "Education Expenditure (EdExp)" appraising the impact of CSR on educational spending; and
5. "Health Expenditure" – scrutinizing how CSR is associated with healthcare expenditures.

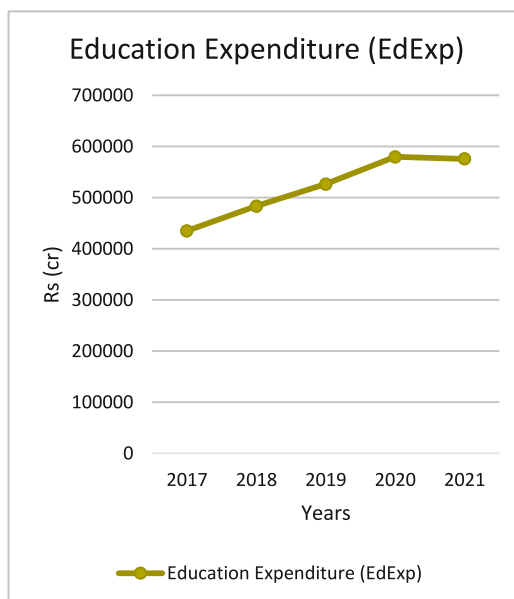
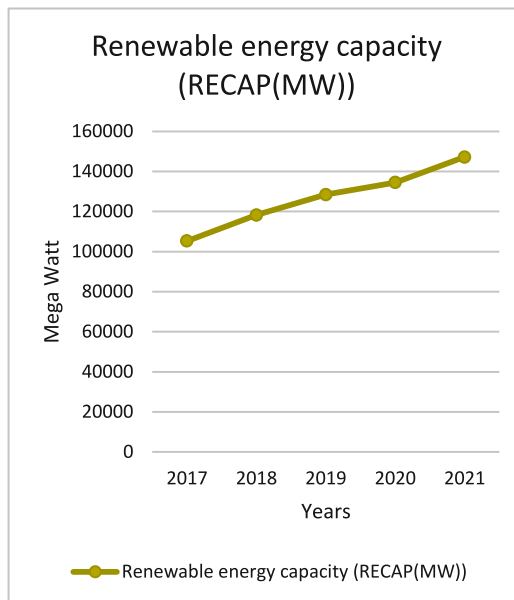
These variables are vital for understanding the multifaceted role of CSR in promoting sustainability across social, economic, and environmental dimensions in the Indian context. The research paper seeks to elucidate the relationships between these variables and CSR, thereby contributing to the broader discourse on CSR's contribution to sustainable development.

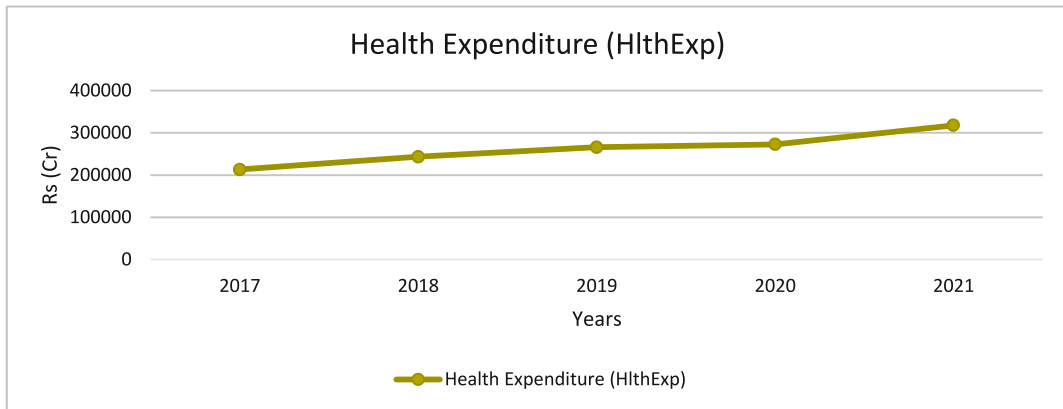
Table 1: Variables of model

Variable (Symbol)	Unit
Source s	
1. Corporate Social Responsibility (CSR) csr.gov.in	Rs
2. Electricity Generation from RES [E -RES(BU)] statista.com	Billion Units
3. CO ₂ Emissions (CO ₂ (MT)) ourworldindata.org	Million Metric Tons
4. Renewable energy capacity [RECAP(MW)] statista.com	Megawatts
5. Education Expenditure (EdExp) pib.gov.in	Rs
6. Health Expenditure (HlthExp) pib.gov.in	Rs

Figure 1 : Key Sustainable Development Indicators







Research Models

$$Y1 = a1 + b1 * X + e1... (1)$$

$$Y2 = a2 + b2 * X + e2... (2)$$

$$Y3 = a3 + b3 * X + e3... (3)$$

$$Y4 = a4 + b4 * X + e4... (4)$$

$$Y5 = a5 + b5 * X + e5... (5)$$

Specifically, the regression equations were constructed as follows:

1. For Electricity Generation ex Renewable Energy
Sources – (Y1), $Y1 = a1 + b1 * X + e1$;
2. For change in CO2 emissions – (Y2), $Y2 = a2 + b2 * X + e2$;
3. For Renewable Energy Capacity – (Y3), $Y3 = a3 + b3 * X + e3$;
4. For Education Expenditure – (Y4), $Y4 = a4 + b4 * X + e4$; and
5. For Health Expenditure – (Y5), $Y5 = a5 + b5 * X + e5$.

In the above equations :

"a" represents the intercept or baseline value,

"b" signifies the regression coefficient measuring the effect of CSR on each respective

dimension of sustainable development, and

“e” stands for the error term accounting for unexplained variability.

These regression equations were instrumental in quantifying and understanding the relationships between CSR, and, these vital facets of sustainable development, provided valuable insights for policy formulation and corporate decision-making for fostering a more sustainable future.

Results and Discussions

Table 2: Descriptive Statistics

Description	N	Minimum	Maximum	Mean	Std. Deviation
Corporate Social Responsibility	5	14542.51	26211	20607.302	4991.01995
Electricity Generation from RES (Billion Units)	5	82	147	119.2	26.771
Change in CO2 emissions (MT)	5	-181	265	65.4	167.655
Renewable energy capacity (in megawatts)	5	105253	147122	126690.6	15909.844
Education Expenditure	5	434974	579575	520069	61789.266
Health Expenditure	5	213119	317687	262531	38611.235

Source: Authors' calculation

In this summary of descriptive statistics, CSR is considered as the independent variable, and the dataset comprises a sample of 5 observations. Specifically:

- For CSR, the dataset shows a range from a minimum value of 14,542.51 to a maximum of 26,211, with a mean CSR value of approximately 20,607.30 and a standard deviation of 4,991.02. For Electricity Generation from Renewable Energy Sources, the data varies between a minimum of 82 and a maximum of 147 billion units, demonstrating a mean of 119.20 billion units and a standard deviation of 26.77.
- “In terms of the change in CO2 emissions, the dataset exhibits values ranging from a minimum of -181 million metric tons (MT) to a maximum of 265 MT, with a mean of 65.40 MT and a standard deviation of 167.66.

- For Renewable Energy Capacity, observations span from a minimum of 105,253 megawatts to a maximum of 147,122 megawatts, with a mean of 126,690.60 megawatts and a standard deviation of 15,909.84.
- Education Expenditure shows variability, ranging from a minimum of 434,974 to a maximum of 579,575, with a mean of 520,069 and a standard deviation of 61,789.27.
- Health Expenditure falls within a range of 213,119 to 317,687, with a mean of 262,531 and a standard deviation of 38,611.24.

These descriptive statistics offer valuable insights into the dataset's central tendencies and the extent of variability, facilitating a comprehensive understanding of the characteristics and ranges of the variables involved.”

Table 3: Correlations

** Correlation is significant at the 0.01 level (2 -tailed).

	Corporate Social Responsibility	Electricity Generation from RES (Billion Units)	Change in CO2 emissions (MT)	Renewable Energy capacity (in megawatt)	Education Expenditure	Health Expenditure
Corporate Social Responsibility	1					
Electricity Generation from RES (Billion Units)	.974**	1				
Change in CO2 emissions (MT)	-0.061	-0.033	1			
Renewable energy capacity (in megawatts)	.968**	.981**	0.145	1		
Education Expenditure	.984**	.984**	-0.151	.953*	1	
Health Expenditure	.932*	.947*	0.277	.990**	.902*	1

* Correlation is significant at the 0.05 level (2 -tailed).

Source: Authors' calculation

In the correlation analysis, CSR was examined as the independent variable, while several key sustainability and expenditure-related variables, including Electricity Generation from Renewable Energy Sources (RES), CO2 emissions, Renewable Energy Capacity, Education Expenditure, and Health Expenditure, were considered as dependent variables. The results indicate significant correlations between CSR and the selected variables. Notably, a highly positive and statistically significant correlation was observed between CSR and Electricity Generation from RES ($r = 0.974, p < 0.01$), demonstrating a strong association between CSR initiatives and the generation of electricity from renewable sources. Additionally, CSR exhibited a robust positive correlation with Renewable Energy Capacity ($r = 0.968, p < 0.01$), indicating that increased CSR efforts are linked to higher renewable energy capacity. Furthermore, CSR displayed significant positive correlations with Education Expenditure ($r = 0.984, p < 0.01$) and Health Expenditure ($r = 0.932, p < 0.01$), underscoring its connection with greater investments in education and healthcare. However, weaker and statistically non-significant negative correlation was observed between CSR and change in CO2 emissions ($r = -0.061, p < 0.01$). These findings emphasize the multifaceted influence of CSR on sustainability-related factors and expenditure allocations, highlighting the potential of CSR practices to promote environmentally responsible and socially beneficial outcomes.

Table 4: ANOVA Results for the Impact of Corporate Social Responsibility (CSR) on Various Dependent Variables

Dependent Variable	Sum of Squares (Regression)	Sum of Squares (Residual)	Total Sum of Squares	df (Regression)	df (Residual)	Mean Square (Regression)	Mean Square (Residual)	F-value	Sig. (p-value)
Electricity Generation from RES (Billion Units)	2720.453	146.35	2,866.80	1	3	2720.453	48.78	55.767	0.005**
CO2 Emissions (MT)	424.85	112008.35	112,433.20	1	3	424.85	37336.117	0.011	0.922

Renewable Energy Capacity (MW)	948,828,742.10	63,663,743.10	1,012,492,485	1	3	948,828,742.10	21,221,247.71	44,711	0.007**
Education Expenditure	14,786,362,047	485,291,726.90	15,271,653,774	1	3	14,786,362,047	161,763,909	91,407	0.002**
Health Expenditure	5,184,330,074	778,979,667.60	5,963,309,742	1	3	5,184,330,074	259,659,889.20	19,966	0.021**

Source: Authors' calculation

The ANOVA results indicate that the independent variable significantly affects several dependent variables. In particular, there is a strong and statistically significant relationship between independent variables and electricity generation from renewable energy sources ($F = 55.767$, $p = 0.005$), renewable energy capacity ($F = 44.711$, $p = 0.007$), education expenditure ($F = 91.407$, $p = 0.002$), and health expenditure ($F = 19.966$, $p = 0.021$). However, the model fails to explain the variation in CO2 emissions ($F = 0.011$, $P = 0.922$), indicating that there is no substantial link. Overall, the data demonstrate that independent variables have a considerable impact on the majority of the investigated results, with the exception of CO2 emissions.

Table 5: Regression Coefficient

Items	R	R ²	Adjusted R ²	F	t	p-value
E-RES(BU)	.974	0.949	0.932	55.767	7.468	.005
CO2 (MT)	.061	0.004	-0.328	0.011	-0.107	.922
RECAP(MW)	.968	0.937	0.916	44.711	6.687	.007
EdExp	.984	0.968	0.958	91.407	9.561	.002
HlthExp	.932	0.869	0.826	19.966	4.468	.021

Source: Authors' calculation

The regression analysis results, considering CSR as the independent variable and other sustainability and expenditure-related variables as dependents, reveal a substantial level of explainable variance (R²) across the model.

- For Electricity Generation from Renewable Energy Sources (E-RES), the

coefficient is highly significant ($p = 0.005$) with an R^2 of 0.949, indicating that approximately 94.9% of the variation in E-RES can be explained by CSR. Additionally, the Adjusted R^2 stands at 0.932, denoting a robust model fit.

- On the contrary, change in CO2 emissions (CO2) display a non-significant relationship ($p = 0.922$) with CSR, and, the model accounts for only 0.4% of the variance, as suggested by an R^2 of 0.004. Furthermore, the adjusted R^2 of -0.328 indicates that the model does not fit the data well.
- Renewable Energy Capacity (RECAP) exhibits a substantial relationship ($p = 0.007$) with CSR, where CSR accounts for approximately 93.7% of the variation in RECAP ($R^2 = 0.937$), with an adjusted R^2 of 0.916.
- Education Expenditure (EdExp) demonstrates a highly significant association with CSR ($p = 0.002$), and the model explains about 96.8% of the variance in EdExp ($R^2 = 0.968$), supported by an adjusted R^2 of 0.958.
- Lastly, Health Expenditure (HlthExp) showcases a significant relationship ($p = 0.021$) with CSR, where CSR contributes to approximately 86.9% of the variance ($R^2 = 0.869$), with an adjusted R^2 of 0.826. These regression coefficients provide insight into the strength and significance of the relationships between CSR and various sustainability variables, underlining the valuable role of CSR in explaining these factors in the context of this research paper.

Table 6: Hypothesis Test Result

Hypothesis	Regression Weights	B	R2	F	p-value	Hypothesis Test Result
Ha1	CSR - E-RES(BU)	0.005	0.949	55.767	0.005	Accepted
Ha2	CSR -CO2 (MT)	-0.002	0.004	0.011	0.922	Rejected
Ha3	CSR - RECAP(MW)	3.086	0.937	44.711	0.007	Accepted
Ha4	CSR - EdExp	12.182	0.968	9.407	0.002	Accepted
Ha5	CSR - HlthExp	7.213	0.869	19.966	0.021	Accepted

Source: Authors' calculation

The hypothesis test results for the relationships between CSR as the independent variable and various dependent variables are presented in Table 4. The analysis revealed that :

- CSR has a significant positive relationship with Electricity Generation from Renewable Energy Sources (E-RES) in billion units (H1), as indicated by the positive regression weight ($B = 0.005$) and a high R-squared value ($R^2 = 0.949$). This relationship was further supported by a significant F-statistic ($F = 55.767$) and a low p-value ($p = 0.005$), leading to the acceptance of H1.
- The relationship, on the other hand, between CSR and change in CO₂ emissions (MT) (H2) was found to be non-significant, as reflected by the negative regression weight ($B = -0.002$) and the low R-squared value ($R^2 = 0.004$). The F-statistic was also insignificant ($F = 0.011$, $p = 0.922$), leading to the rejection of H2.
- CSR was significantly and positively related to Renewable Energy Capacity (RECAP) in megawatts (H3), supported by a substantial regression weight ($B = 3.086$), a high R-squared value ($R^2 = 0.937$), a significant F-statistic ($F = 44.711$), and a low p-value ($p = 0.007$), resulting in the acceptance of H3.
- Additionally, CSR exhibited significant positive relationships with Education Expenditure (EdExp) (H4) and Health Expenditure (HlthExp) (H5). The regression weights for H4 and H5 were 12.182 and 7.213, respectively, and both relationships were supported by high R-squared values (EdExp: $R^2 = 0.968$, HlthExp: $R^2 = 0.869$), significant F-statistics (EdExp: $F = 9.407$, HlthExp: $F = 19.966$), and low p-values (EdExp: $p = 0.002$, HlthExp: $p = 0.021$), leading to the acceptance of H4 and H5.

In conclusion, CSR was found to have a significant and positive impact on E-RES, RECAP, EdExp, and HlthExp, while no significant relationship was observed with CO₂ emissions (MT).

Conclusion and Findings

In summary, a thorough analysis of the influence of CSR activities on sustainable development in India has been conducted in this research paper. The research offers significant perspectives on the complex interplay between CSR and important aspects of

sustainability, such as (a) electricity generation from renewable energy sources (E-RES), (b) education expenditure, (c) health expenditure, and (d) renewable energy capacity. The results reveal a strong and positive association between CSR and these dimensions, signifying that increased CSR efforts are conducive to advancements in these areas. Notably, the robust correlation between CSR and RECAP underscores the role of CSR in driving renewable energy infrastructure, which is vital for environmental sustainability.

While CSR demonstrates a positive impact on several aspects of sustainable development, it is essential to recognize that the study did not find a significant relationship between CSR and CO₂ emissions. This suggests that efforts to reduce carbon emissions may require more nuanced strategies or a longer-term assessment.

These findings hold significant implications for both policymakers and corporations aiming to contribute to sustainable development in India. The evidence presented in this paper supports the idea that CSR can be a potent force for positive change in various sectors, from renewable energy to healthcare and education. However, further research and nuanced strategies are needed to fully address the environmental challenges, especially carbon emissions.

There are also some limitations and gaps in the existing research, such as the lack of longitudinal studies, the use of different indicators and methods, and the neglect of some important aspects such as stakeholder involvement, ethical standards, and cultural diversity. Therefore, future research should aim to overcome these limitations and gaps and provide more comprehensive and robust evidence on the effect of CSR initiatives on achieving sustainable development in India. Overall, this study advances our understanding of the role of CSR in promoting sustainable development, providing a foundation for future research and decision-making in the pursuit of a more sustainable and equitable India.

Data Availability Statement

The datasets generated and/or analyzed during the current study are available in the following repositories:

<> <https://www.csr.gov.in/content/csr/global/master/home/home.htmls>

<> <https://ourworldindata.org/co2/country/india>

<> <https://pib.gov.in/PressReleasePage.aspx?PRID=1894902>

<> <https://www.statista.com/statistics/865716/india-total-renewable-energy-capacity/>

References

- Bowen, H., Bowen, P. & Gond, P. (2013), *Social responsibilities of the businessman*. Research Gate. https://www.researchgate.net/publication/290915036_Social_responsibilities_of_the_businessman
- Carroll, A. B. (1999), *Corporate social responsibility: Business and Society*, 38(3), 268-295. <https://doi.org/10.1177/000765039903800303>
- Carroll, A. B. & Shabana, K. M. (2010) The business case for corporate social responsibility: A review of concepts, research and practice, *International Journal of Management Reviews*, 12(1), 85-105. <https://doi.org/10.1111/j.1468-2370.2009.00275.x>
- Chaudhary R., Singh S. & Narula S. A. (2019) Impact of corporate social responsibility on financial inclusion: A case study of Indian banks, *Journal of Business Ethics* 160(3), 789-805.
- Dahlsrud, A. (2008), How corporate social responsibility is defined: An analysis of 37 definitions, *Corporate Social Responsibility and Environmental Management*, 15(1), 1-13. <https://doi.org/10.1002/csr.132>
- Elkington, J. (1998), *Partnerships from cannibals with forks: The triple bottom line of 21st-century business*. *Environmental Quality Management*, 8(1), 37-51. <https://doi.org/10.1002/tqem.3310080106> Brundtland Commission. (1987). Our common future. Oxford University Press.
- Epstein, M. J. & Buhovac, A. R. (2017), *Making sustainability work*, in *Routledge eBooks*. <https://doi.org/10.4324/9781351276443>
- Freeman, R. E. (2010), *Strategic Management*. <https://doi.org/10.1017/cbo9781139192675>

- Gupta S., Singh S. & Kumar R. (2019), Corporate social responsibility as an enabler for innovation performance: The mediating role of absorptive capacity, *Journal of Cleaner Production* 237(1), 117-734. ?
- Jain A., Sharma A. & Upadhyay A. D. (2019), Corporate social responsibility practices in cement industry in India: A case study of UltraTech Cement Ltd, *International Journal of Engineering Research & Technology* 8(12), 1-6.
- Khan M.A., Khan N.A. & Bhat N.A. (2017), Corporate social responsibility practices in oil and gas sector: A case study of ONGC Ltd., *India, International Journal of Management Studies* 4(3), 1-11.
- Kumar A., Singh R.K. & Shankar R. (2018), Corporate social responsibility practices in India: A case study of top 10 pharmaceutical companies in India, *International Journal of Business Ethics in Developing Economies* 7(2), 1-13.
- Matten, D. (2008), "Implicit" and "Explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. <https://ssrn.com/abstract=978942>
- McWilliams, A. & Siegel, D. S. (2001), Corporate Social Responsibility: A Theory of the Firm Perspective, *Academy of Management Review*, 26(1), 117-27. <https://doi.org/10.5465/amr.2001.4011987>.
- Mishra P. K., Pradhan R.K. & Das D. K. (2018) Corporate social responsibility practices in mining industry in India: A case study of Sesa Goa Ltd, *International Journal of Research in Commerce, Economics Management* 8(1), 1-6.
- Roy S., Das D. & Pal M. (2018), Corporate social responsibility practices in textile industry in India: A case study of Arvind Ltd, *International Journal of Research in Commerce and Management* 9(1), 1-5.
- Sharma A., Singh S. & Sharma D. (2020), Corporate social responsibility and firm performance: A case study of Indian manufacturing sector, *International Journal of Business and Management* 15(2), 1-12.
- Singh S., Chaudhary R. & Narula S. A. (2017) Corporate social responsibility

practices in IT industry in India: A case study of Infosys Ltd, *International Journal of Business and Management Invention*, 6(10), 1-9.

- Van Marrewijk, M (2003), Concepts and definitions of CSR and corporate sustainability: Between agency and communion, *Journal of Business Ethics*, 44(2), 95-105.
- <https://www.csr.gov.in/content/csr/global/master/home/home.html>
- <https://ourworldindata.org/co2/country/india>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1894902>
- <https://www.statista.com/statistics/865716/india-total-renewable-energy-capacity/>

