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Concentration or Inclusion? CSR Portfolio Priorities in Selected Maharatna Companies, 2014-15 to 2023-24

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Abstract

This study evaluates whether the corporate social responsibility (CSR) portfolios of four Indian Maharatna public enterprises were broadly inclusive or concentrated in a small set of conventional activities. It analyses cumulative identified expenditure of Oil and Natural Gas Corporation Limited (ONGC), NTPC Limited, Steel Authority of India Limited (SAIL), and Coal India Limited (CIL) for 2014-15 to 2023-24. The evidence base is a locked 12-category activity matrix constructed from annual reports, CSR annexures, official project disclosures, and controlled company workbooks. Administrative, technical, residual, and inseparable multi-theme amounts are excluded from thematic ranking. The analysis applies activity shares, three- and five-category concentration ratios, the Herfindahl-Hirschman Index, Shannon entropy, the effective number of categories, pairwise rank correlations, and Kendall's coefficient of concordance. Identified substantive expenditure totalled Rs.5,428.65 crore. Education and skill development accounted for 21.35%, health and nutrition for 21.00%, and environmental sustainability for 15.62%. The five leading categories absorbed 83.72% of the identified portfolio. CIL displayed the greatest concentration, while SAIL had the widest thematic spread. The four companies nevertheless showed significant agreement in their overall priority rankings. Women's empowerment, vulnerable-group welfare, livelihood and entrepreneurship, and senior-citizen welfare received relatively low separately identifiable expenditure. Because 35.24% of total CSR expenditure remained unresolved or mixed, these findings represent a conservative, lower-bound description rather than a complete thematic allocation. The study concludes that the selected companies shared a strong human-development orientation but need clearer portfolio safeguards and beneficiary tagging for inclusion-oriented activities.

Keywords: corporate social responsibility; CSR portfolio; thematic concentration; Maharatna companies; inclusive CSR; public sector enterprises

1. Introduction

India's mandatory CSR framework, established through Section 135 of the Companies Act, 2013, moved corporate social expenditure from a predominantly voluntary domain into a formal system of policy approval, financial allocation, implementation, and disclosure. Yet total spending or statutory compliance reveals little about the internal composition of a company's CSR portfolio. Two enterprises can spend similar amounts while making very different choices among education, health, environmental restoration, water, livelihoods, gender equality, disability inclusion, sports, culture, and disaster relief.

Portfolio composition matters because categories represent different pathways to public value. Education and healthcare strengthen human capabilities; sanitation and rural infrastructure provide basic community services; livelihood programmes may generate recurring income; and women-focused or disability-inclusive initiatives address structural barriers. A concentrated portfolio can create scale and administrative familiarity, but excessive concentration may narrow beneficiary coverage and leave cross-cutting forms of exclusion weakly visible in planning and reporting.

Stakeholder theory provides a useful foundation for this inquiry because it treats corporate responsibility as a response to multiple groups rather than a single aggregate obligation (Freeman, 1984; Clarkson, 1995). Carroll's (1991) framework likewise presents social responsibility as multidimensional, while Porter and Kramer (2006) stress the importance of linking corporate action to material social needs. Applied to CSR budgeting, these perspectives suggest that the quality of a portfolio depends not only on its size but also on the range, balance, and relevance of its thematic commitments.

The selected enterprises-ONGC, NTPC, SAIL, and CIL-operate in oil and gas, electricity generation, steel, and coal mining. Their operational contexts differ, but all interact with communities facing needs related to health, education, water, environment, livelihoods, and local infrastructure. The study therefore asks whether their identified CSR portfolios were diversified and inclusion-oriented or concentrated in a common set of established sectors during 2014-15 to 2023-24.

2. Conceptual Background and Research Gap

Carroll (1991) presented corporate responsibility as a layered construct incorporating economic, legal, ethical, and philanthropic expectations. For the present study, the relevance of this model lies in its warning against reducing CSR to a single expenditure figure. An enterprise may satisfy a financial requirement while directing most discretionary resources toward only a few highly visible activities. Portfolio composition therefore provides an additional perspective on how philanthropic and ethical responsibilities are interpreted in practice.

Freeman (1984) and Clarkson (1995) placed stakeholder plurality at the centre of corporate responsibility. Their approaches imply that communities are not homogeneous: students, patients, women, workers, persons with disabilities, elderly citizens, and residents of environmentally affected locations can have different claims. A portfolio dominated by broad services may reach many people

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but still leave some stakeholder groups financially indistinct. Thematic and beneficiary-level visibility is consequently important for evaluating inclusion.

Porter and Kramer (2006) argued that social initiatives become more meaningful when firms connect them with material social conditions and areas in which corporate capabilities can create value. Applied to public enterprises, this argument supports differentiated portfolios rather than identical sectoral templates. An energy company, a steel producer, and a coal enterprise may share national development priorities, but their affected communities and operational externalities are not the same. Company-level concentration and ranking measures can therefore reveal whether thematic choices reflect such differences.

Visser (2008) emphasised that CSR in developing countries is shaped by governance gaps, socio-economic needs, institutional pressures, and locally specific development problems. In India, education, health, sanitation, and infrastructure remain legitimate priorities, yet inclusive development also requires livelihoods, gender equality, and support for vulnerable groups. The analytical question is not whether conventional sectors deserve funding, but whether their dominance leaves adequate and separately visible space for empowerment-oriented activities.

Much of the empirical CSR literature examines statutory compliance, aggregate expenditure, disclosure practices, or links between CSR and financial performance. These approaches are valuable, but they can conceal the distribution of spending within the portfolio. Descriptive sector rankings are also insufficient when disclosures contain residual balances, combined projects, or activity lists without corresponding amounts. A concentration analysis must therefore begin with a transparent denominator and must avoid manufacturing category values from inseparable disclosures.

Portfolio concentration refers to the extent to which a small number of categories dominate identified spending. Diversity refers to how evenly expenditure is distributed across categories. Inclusion is related but distinct: a portfolio may appear diverse while still assigning only marginal amounts to women, persons with disabilities, vulnerable communities, livelihood creation, or senior citizens. A complete assessment therefore requires distributional measures, company-level comparison, and controlled interpretation of categories with low separately identified expenditure.

The main methodological challenge is disclosure heterogeneity. Some projects combine education, health, women's livelihoods, and infrastructure in a single amount. Allocating such expenditure through assumed percentages would produce a more complete-looking matrix but weaken traceability. The locked coding protocol assigns each amount according to its primary disclosed purpose, places indivisible multi-theme values in a control category, and excludes project inventories that contain descriptions but no expenditure. This study contributes by applying concentration, entropy, and rank-concordance measures only to the audited 12-category substantive matrix and by treating the results as identified or lower-bound expenditure.

3. Objectives and Hypothesis

The study pursues five objectives: (a) to examine the distribution of identified CSR expenditure across 12 substantive activities; (b) to identify leading and relatively low-funded categories; (c) to measure portfolio concentration and thematic diversity; (d) to compare the activity priorities of ONGC, NTPC, SAIL, and CIL; and (e) to test whether the four companies demonstrate significant agreement in their thematic rankings.

The null hypothesis states that there is no significant agreement among the four companies in the ranking of CSR activity priorities. The alternative hypothesis states that significant agreement exists. All inferential decisions use a 5% significance level.

4. Research Methodology

The study is descriptive, comparative, and analytical and relies entirely on secondary data. Annual reports, CSR annexures, official project disclosures, and company-specific extraction workbooks were reconciled into a cumulative company-activity matrix for 2014-15 to 2023-24. The matrix covers 12 substantive categories: education and skill development; health and nutrition; sanitation and drinking water; environmental sustainability; rural development and community infrastructure; livelihood and entrepreneurship; women's empowerment and gender equality; vulnerable groups and disability welfare; sports; art, culture and heritage; senior-citizen welfare; and disaster management, relief and rehabilitation.

A thirteenth coding category-OTH-captures administration, impact assessment, technical adjustments, refunds, residual values, and inseparable multi-theme amounts. OTH and unresolved expenditure are excluded from thematic ranking. The wider reconciliation contains Rs.9,710.00 crore of total CSR expenditure, of which Rs.5,428.65 crore (55.91%) is assigned to substantive activities, Rs.859.83 crore (8.86%) is controlled non-substantive expenditure, and Rs.3,421.52 crore (35.24%) remains mixed or unresolved. The substantive denominator is therefore a controlled lower bound, not a full portfolio allocation.

Activity share is calculated as identified expenditure on a category divided by total identified substantive expenditure. The three- and five-category concentration ratios (CR3 and CR5) measure the combined share of the largest categories. The Herfindahl-Hirschman Index (HHI) is the sum of squared category proportions; under equal distribution across 12 categories, its benchmark is approximately 0.083. Shannon entropy measures the spread of expenditure, and normalised entropy divides the observed value by ln(12). Exponentiating entropy gives the effective number of equally funded categories.

Company-specific activity ranks are compared through Spearman correlations. Kendall's coefficient of concordance (W), adjusted for tied ranks, tests whether the companies share a common thematic ordering. Kendall's W is especially suitable because the same 12 activities are ranked by four companies and because zero values create ties in some portfolios. A significant W indicates common ordering, not identical expenditure shares. The concentration indices are computed from the rounded locked matrix; minor rounding differences do not change rankings or interpretation.

Table 1: Data Boundary and Reconciliation of CSR Expenditure

Reconciliation component	Amount (Rs. crore)	Share of total CSR expenditure
Identified substantive activities	5,428.65	55.91%
Controlled non-substantive amount	859.83	8.86%
Unresolved mixed or residual amount	3,421.52	35.24%
Total CSR expenditure	9,710.00	100.00%

Note. Compiled from the locked reconciliation register. Only identified substantive activities form the denominator for thematic ranking; OTH and unresolved amounts are excluded.

5. Results

Table 1 defines the analytical boundary. Only 55.91% of total CSR expenditure is used for substantive ranking. The exclusion of OTH and unresolved amounts prevents unverifiable redistribution but requires conservative interpretation of all thematic percentages.

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Table 2: Pooled Ranking of Identified Substantive CSR Expenditure

Rank	Activity	Identified expenditure (Rs. crore)	Share
1	Education and skill development	1,159.25	21.35%
2	Health and nutrition	1,140.26	21.00%
3	Environmental sustainability	847.91	15.62%
4	Sanitation and drinking water	703.59	12.96%
5	Rural development and community infrastructure	693.87	12.78%
6	Disaster management, relief and rehabilitation	541.03	9.97%
7	Sports	129.36	2.38%
8	Art, culture and heritage	80.84	1.49%
9	Women’s empowerment and gender equality	43.31	0.80%
10	Vulnerable groups and disability welfare	41.25	0.76%
11	Livelihood and entrepreneurship	40.51	0.75%
12	Senior-citizen welfare	7.47	0.14%
	Total	5,428.65	100.00%

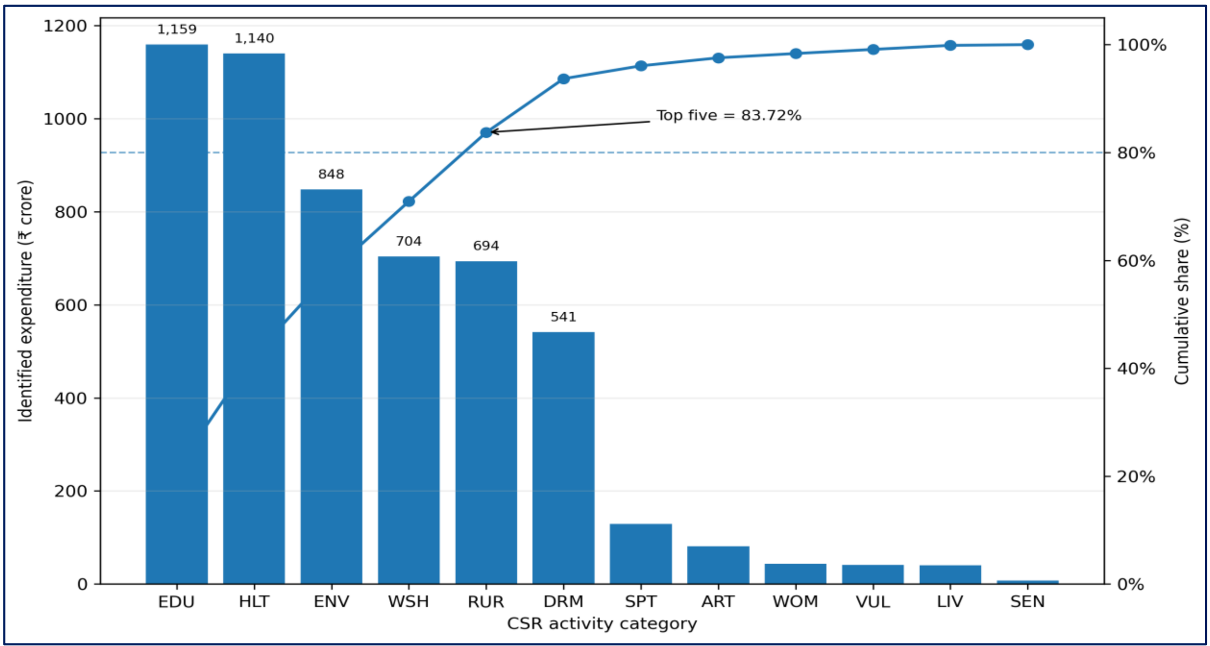
Note. Amounts are cumulative identified expenditure for 2014-15 to 2023-24. Administrative, technical, residual, and inseparable multi-theme amounts are excluded. Rounded source values may produce immaterial summation differences.

Table 2 shows a strongly uneven pooled distribution. Education and skill development received Rs.1,159.25 crore (21.35%), narrowly ahead of health and nutrition at Rs.1,140.26 crore (21.00%). Environmental sustainability ranked third with Rs.847.91 crore (15.62%), followed by sanitation and drinking water (12.96%) and rural development and community infrastructure (12.78%). Together, the leading five categories accounted for 83.72% of identified substantive expenditure. Figure 1 visualises this concentration through a Pareto curve.

Disaster management, relief, and rehabilitation added a further 9.97%, taking the leading six categories to 93.69%. Only 6.31% remained for sports, culture, women’s empowerment, vulnerable-group welfare, livelihood and entrepreneurship, and senior-citizen welfare. Women’s empowerment accounted for 0.80%, vulnerable-group welfare for 0.76%, livelihood and entrepreneurship for 0.75%, and senior-citizen welfare for 0.14%. These are relatively low separately identified shares; they do not prove that the corresponding beneficiaries were wholly absent from education, health, rural-development, or multi-theme projects.

The pooled CR3 was 57.98% and CR5 was 83.72%. The pooled HHI was 0.158, well above the equal-distribution benchmark. Normalised entropy was 0.796 and the effective number of categories was 7.23. Although all 12 categories appeared in the pooled matrix, the expenditure pattern had the diversity equivalent of only about seven equally funded categories.

Figure 1: Pareto Distribution of Identified Substantive CSR Expenditure



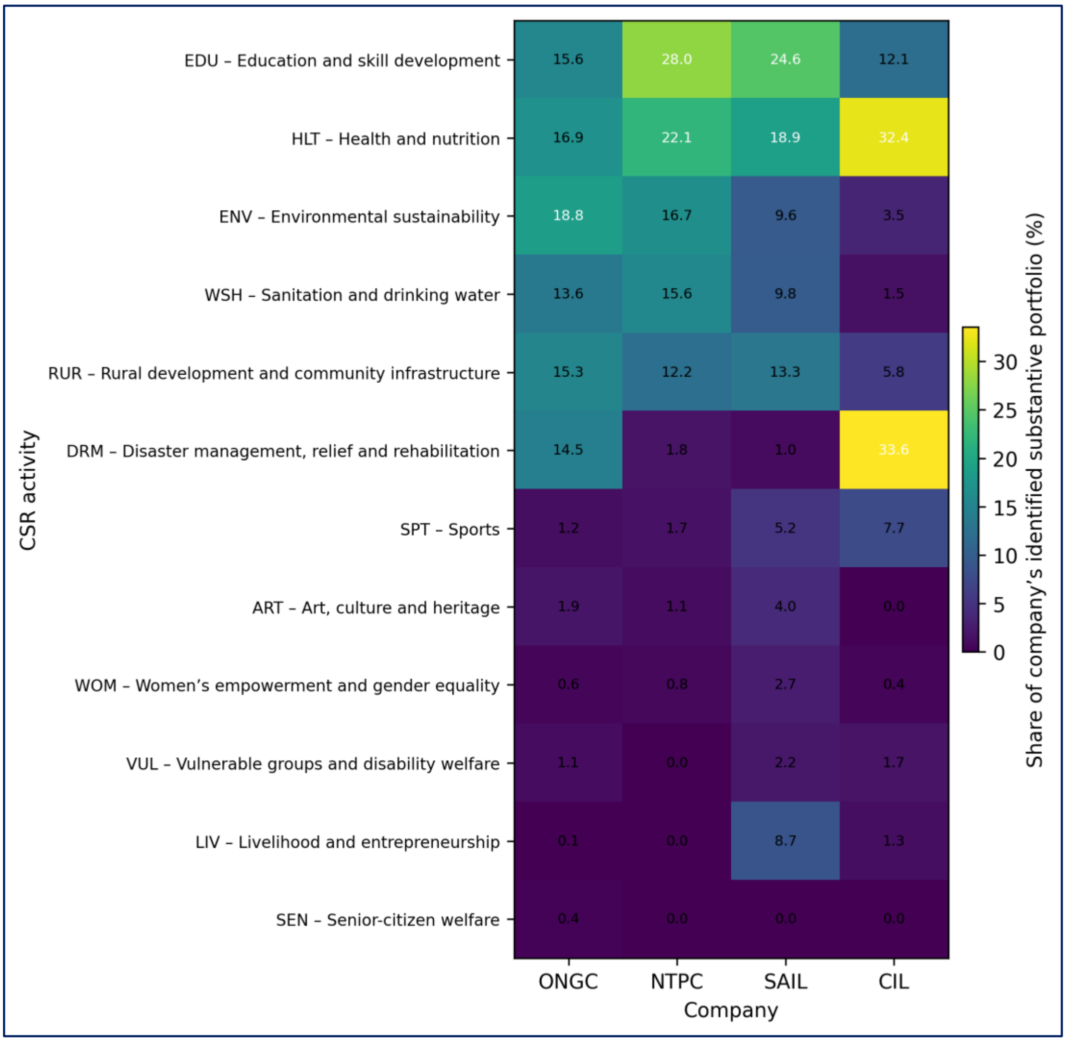
Note. Category codes follow the locked activity manual. The cumulative line reaches 83.72% after the fifth category. Source: locked four-company substantive activity matrix.

Table 3: Company-Wise Identified Substantive Expenditure Shares

Activity	ONGC	NTPC	SAIL	CIL
EDU - Education and skill development	15.59%	28.01%	24.65%	12.08%
HLT - Health and nutrition	16.95%	22.09%	18.91%	32.37%
ENV - Environmental sustainability	18.79%	16.70%	9.59%	3.48%
WSH - Sanitation and drinking water	13.60%	15.63%	9.80%	1.47%
RUR - Rural development and community infrastructure	15.30%	12.20%	13.29%	5.84%
DRM - Disaster management, relief and rehabilitation	14.48%	1.82%	1.01%	33.57%
SPT - Sports	1.23%	1.69%	5.20%	7.68%
ART - Art, culture and heritage	1.92%	1.09%	3.97%	0.05%
WOM - Women’s empowerment and gender equality	0.58%	0.78%	2.73%	0.41%
VUL - Vulnerable groups and disability welfare	1.13%	0.00%	2.16%	1.75%
LIV - Livelihood and entrepreneurship	0.07%	0.00%	8.68%	1.30%
SEN - Senior-citizen welfare	0.36%	0.00%	0.00%	0.00%

Note. Shares use each company’s identified substantive total as the denominator. Zero denotes no separately identified amount under the locked coding protocol, not necessarily the absence of related beneficiaries.

Figure 2: Company-Activity Heatmap of Identified CSR Expenditure Shares



Note. Cell values are percentages of each company's identified substantive portfolio. Darker cells indicate higher within-company thematic shares. Source: locked 12-category matrix.

Table 3 and Figure 2 demonstrate meaningful company variation. ONGC distributed its leading expenditure across environment, health, education, rural infrastructure, disaster relief, and sanitation, with each category representing roughly 14%-19% of its identified portfolio. NTPC concentrated heavily on education, health, environment, sanitation, and rural development; those five categories jointly accounted for 94.62%. SAIL gave the greatest relative attention to livelihood and entrepreneurship (8.68%) and also maintained visible shares for sports, culture, women's empowerment, and vulnerable groups. CIL was dominated by disaster relief and health, which together absorbed 65.94% of its identified substantive expenditure.

The company indices in Table 4 confirm these contrasts. CIL had the highest HHI (0.243), the lowest normalised entropy (0.677), and an effective category count of 5.38, making it the most concentrated portfolio. NTPC was also highly concentrated, with CR5 of 94.62% and an effective count of 5.84. SAIL recorded the lowest HHI (0.146), the highest entropy (0.846), and the broadest effective spread at 8.19 categories. ONGC occupied an intermediate position with an effective count of 7.24.

Table 4: Portfolio Concentration and Diversity Measures

Portfolio	Identified total (Rs. crore)	CR3	CR5	HHI	Normalised entropy	Effective categories
Pooled	5,428.65	57.98%	83.72%	0.158	0.796	7.23
ONGC	2,071.96	51.33%	81.11%	0.152	0.796	7.24
NTPC	2,417.17	66.79%	94.62%	0.195	0.710	5.84
SAIL	363.42	56.85%	76.25%	0.146	0.846	8.19
CIL	576.09	78.02%	91.54%	0.243	0.677	5.38

Note. CR3 and CR5 are the combined shares of the three and five largest categories. HHI increases with concentration. Normalised entropy and effective categories increase with thematic spread.

Table 5 reports rank agreement. Kendall's W was 0.767, with an approximate chi-square of 33.73 (df = 11, $p < .001$). The null hypothesis is therefore rejected: the four companies displayed substantial and statistically significant agreement in their overall thematic rankings. Pairwise Spearman correlations were strongest between ONGC and NTPC ($\rho = 0.923$, $p < .001$) and between NTPC and SAIL ($\rho = 0.789$, $p = .002$). SAIL and CIL showed the weakest and non-significant similarity ($\rho = 0.434$, $p = .159$), reflecting SAIL's emphasis on livelihood and CIL's emphasis on disaster relief.

Table 5: Rank Concordance and Pairwise Similarity of Company Priorities

Test/comparison	Statistic	p value	Decision or interpretation
Kendall's coefficient of concordance	$W = 0.767$	< .001	Substantial agreement; reject H_0
Approximate chi-square	$\chi^2(11) = 33.73$	< .001	Overall ranking agreement is significant
Spearman: ONGC-NTPC	$\rho = 0.923$	< .001	Significant similarity
Spearman: ONGC-SAIL	$\rho = 0.643$	0.024	Significant similarity
Spearman: ONGC-CIL	$\rho = 0.678$	0.015	Significant similarity
Spearman: NTPC-SAIL	$\rho = 0.789$	0.002	Significant similarity
Spearman: NTPC-CIL	$\rho = 0.669$	0.017	Significant similarity
Spearman: SAIL-CIL	$\rho = 0.434$	0.159	Not significant

Note. Ranks are based on cumulative identified expenditure across 12 categories. Kendall's W includes tie correction.

6. Discussion

The findings reveal a pattern of concentrated commonality. The four companies did not maintain identical portfolios, yet they converged around education, health, environmental sustainability, water and sanitation, and rural infrastructure. These activities are socially important, widely recognised under Schedule VII, and comparatively easy to implement and communicate. Their dominance is therefore understandable, but it also raises questions about the visibility of capability-building and inclusion-oriented themes.

Education and health jointly absorbed more than two-fifths of identified expenditure. By contrast, livelihood and entrepreneurship, women's empowerment, vulnerable-group welfare, and senior-citizen welfare together accounted for less than 2.5%. Such low shares may partly reflect coding overlap: women may participate in vocational education, vulnerable groups may receive health services, and livelihood components may be embedded in rural-development programmes. The controlled methodology avoids double counting, but it also demonstrates why beneficiary tagging is necessary in addition to primary-theme coding.

The significant concordance result indicates that the companies shared a broad hierarchy of preferred activities. This may reflect common development needs and institutional familiarity, but it may also indicate imitation and path dependence. Large public enterprises can repeatedly select familiar project types even when their operational footprints and affected communities require more differentiated portfolios.

Concentration is not inherently inefficient. A focused education or health portfolio may be justified where needs are severe and outcomes are measurable. Conversely, diversity without implementation quality may produce fragmented programmes. The practical issue is whether concentration arises from evidence-based need assessment and materiality or from convenience, legacy practices, and limited thematic reporting.

The company comparison also shows that aggregate concentration can emerge through different thematic routes. NTPC's concentration was built around education, health, environment, water, and rural development, whereas CIL's was driven mainly by disaster relief and health. The same concentration statistic can therefore represent different policy choices. Quantitative indices must be interpreted together with category composition, sectoral context, and the reliability of underlying disclosures.

7. Policy and Managerial Implications

CSR committees should maintain portfolio dashboards that display theme, beneficiary group, geography, project duration, financial commitment, and expected outcome. Multi-theme projects should retain a single financial classification unless an auditable cost basis exists, but secondary-theme and beneficiary tags should identify women, persons with disabilities, tribal communities, youth, and senior citizens.

Companies may also adopt need-based internal planning bands for persistently low-funded inclusion themes. These bands should not operate as rigid statutory quotas; rather, they should require explicit justification when livelihood, gender equality, disability inclusion, or vulnerable-group support remains marginal over successive planning cycles. Livelihood programmes should extend beyond short training courses to market linkage, enterprise incubation, finance, producer collectives, and post-training income tracking.

Finally, concentration measures should be interpreted alongside outcome evidence. A thematically focused portfolio can create significant public value when projects are well targeted, completed on time, and evaluated. Portfolio diversity is therefore a diagnostic indicator, not a substitute for impact assessment.

For annual planning, each company should compare the proposed activity mix with its multi-year baseline. A sharp rise in one category may be justified by a disaster, a major hospital project, or an area-development programme, but the CSR committee should record the reason and assess whether essential inclusion-oriented commitments are displaced. A rolling three-year portfolio review would reduce the risk that short-term events permanently narrow the thematic structure. Such a review should present both financial shares and outcome indicators, because a small but well-designed livelihood or disability project may create value disproportionate to its expenditure share.

8. Limitations

The study uses cumulative identified expenditure and does not estimate annual thematic concentration. Only 55.91% of total CSR expenditure is assigned to substantive categories, while 35.24% remains mixed or unresolved. ONGC's activity totals are conservative lower bounds. Zero values indicate that no separate amount was identified under the coding protocol, not necessarily that no related activity or beneficiary existed. The measures describe financial distribution and do not assess project quality, beneficiary outcomes, or causal impact.

9. Conclusion

The selected Maharatna companies maintained substantial CSR portfolios during 2014-15 to 2023-24, but their identified expenditure was concentrated in a common group of conventional activities. Education and health accounted for 42.35%, while the five leading categories absorbed 83.72%. CIL was the most concentrated company, NTPC also displayed a narrow leading portfolio, SAIL had the broadest thematic spread, and ONGC occupied an intermediate position. Kendall's concordance test established significant agreement in company rankings, indicating a shared hierarchy centred on human development and basic community services. At the lower end, women's empowerment, livelihood and entrepreneurship, vulnerable-group welfare, and senior-citizen welfare received relatively low separately measurable expenditure. These results should not be interpreted as exact thematic allocation or complete neglect because substantial expenditure remained unresolved or embedded in multi-purpose projects. The principal implication is that CSR governance should combine auditable primary-theme coding with beneficiary tagging, portfolio-balance review, and outcome measurement. Such practices would allow large public enterprises to retain effective education and health programmes while giving more explicit attention to economic empowerment and social inclusion.

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