# The Role of Corporate Social Responsibility in Enhancing Sustainability Performance: Evidence from Kerala Manufacturing Firms

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**Abstract**
Corporate Social Responsibility (CSR) has become a critical strategic tool for firms seeking to integrate sustainability into their operations. This paper investigates how CSR initiatives influence sustainability performance encompassing environmental, social and economic dimensions in Indian manufacturing firms. Drawing on a sample of firms operating in Kerala. The study utilizes survey data to assess the relationships between CSR engagement, stakeholder involvement, green innovation capability and sustainability performance. The findings indicate that firms with stronger CSR commitment and stakeholder governance show significantly better sustainability outcomes. The study contributes to theory by linking CSR, green dynamic capabilities and sustainability performance, and offers practical implications for managers and policymakers in emerging economies.

**Keywords:** (Corporate Social Responsibility, Sustainability Performance, Green Capabilities, Manufacturing Firms)

## 1. Introduction

Corporate Social Responsibility (CSR) and sustainability have become key components of modern business strategy. The growing environmental, social and governance (ESG) pressures have made it necessary for firms to align profitability with responsibility. Despite CSR's growing adoption, there remains limited empirical evidence on how it enhances sustainability performance through green capabilities, especially in the Indian manufacturing context. This study aims to examine the relationship between CSR engagement and sustainability performance, considering the mediating effect of green dynamic capabilities and moderating role of stakeholder governance.

## 2. Literature Review

Corporate Social Responsibility (CSR) and sustainability have emerged as central themes in modern corporate governance, reflecting the evolving expectations of businesses to contribute positively to society and the environment. Camilleri (2017) emphasizes that corporate sustainability and responsibility are not merely ethical imperatives but strategic tools that create value for business, society, and the environment simultaneously. He argues that organizations integrating sustainability principles into their core strategies achieve long-term competitive advantages while addressing social and environmental concerns. Tilt (2016) highlights the contextual nature of CSR research, asserting that the social, cultural, and institutional contexts in which firms operate significantly influence how CSR is perceived and implemented. This perspective underscores the need to examine CSR practices beyond universal models and to consider regional and industrial variations. In a similar vein, Kumari and Pareek (2024) explore the interconnectedness between corporate governance, sustainability, and CSR, revealing that robust governance mechanisms enhance transparency and accountability, which, in turn, strengthen sustainable corporate behavior. They suggest that effective governance structures ensure that CSR initiatives are aligned with broader organizational goals and stakeholder interests. Expanding on this relationship, Xiao et al. (2024) empirically model the impact of CSR on green capabilities and sustainability performance, demonstrating that CSR engagement positively influences the development of green dynamic capabilities, which ultimately enhance a firm's sustainability outcomes. Collectively, these studies reveal a multidimensional relationship among CSR, governance, and sustainability performance, suggesting that responsible corporate behavior, when strategically embedded in governance systems, leads to improved environmental and social outcomes while enhancing organizational resilience**3. 3. Research Methodology**

The study surveyed manufacturing firms located in Kerala with more than five years of operation. Primary data was collected through questionnaires, while secondary data was obtained from CSR disclosures. Variables measured include CSR engagement, green dynamic capabilities, sustainability performance, and stakeholder governance. Structural Equation Modelling (SEM) was used for data analysis, and reliability was tested using Cronbach's alpha.

## 4. Data Analysis

Data collected from 150 manufacturing firms were analyzed using Structural Equation Modelling (SEM) to test the proposed hypotheses. Descriptive statistics revealed that most firms had moderate to high levels of CSR engagement, with mean CSR scores of 4.12 on a five-point Likert scale. Sustainability performance scores averaged 4.05, indicating that firms engaging more deeply in CSR tend to perform better across environmental and social dimensions.

**Table 4.1 Descriptive Statistics**

| Variable | N | Mean | Standard Deviation |
|---|---|---|---|
| CSR Engagement | 150 | 4.12 | 0.68 |

| Variable | N | Mean | Standard Deviation |
|---|---|---|---|
| Green Dynamic Capabilities | 150 | 3.98 | 0.72 |
| Sustainability Performance | 150 | 4.05 | 0.64 |
| Stakeholder Governance | 150 | 3.85 | 0.75 |

The descriptive statistics indicate that respondents exhibit a high level of CSR engagement (Mean = 4.12), followed closely by sustainability performance (Mean = 4.05). The moderate variation (SD between 0.64–0.75) suggests that perceptions among respondents are consistent, indicating that CSR practices are well embedded within the sample organizations. The results imply that firms are making steady progress toward integrating green capabilities and stakeholder governance into their sustainability frameworks.

**Tabe 4.2 Correlation Matrix**

| Variable | CSR | GDC | SP | SG |
|---|---|---|---|---|
| CSR | 1.00 | 0.68 | 0.61 | 0.52 |
| GDC | 0.68 | 1.00 | 0.59 | 0.47 |
| SP | 0.61 | 0.59 | 1.00 | 0.50 |
| SG | 0.52 | 0.47 | 0.50 | 1.00 |

**(**CSR=CSR Engagement, GDC: Green Dynamic Capabilities, SP: Sustainability Performance, SG: Stakeholder Governance)

The correlation coefficients show positive and significant relationships among all variables. CSR has a strong positive association with Green Dynamic Capabilities (r = 0.68) and Sustainability Performance (r = 0.61), suggesting that organizations emphasizing CSR are likely to develop stronger green capabilities and achieve better sustainability outcomes. The moderate correlation between Stakeholder Governance (r = **0.52)** and CSR indicates that governance practices also play a supportive role in advancing sustainability objectives.

### 4.3 Conceptual Framework

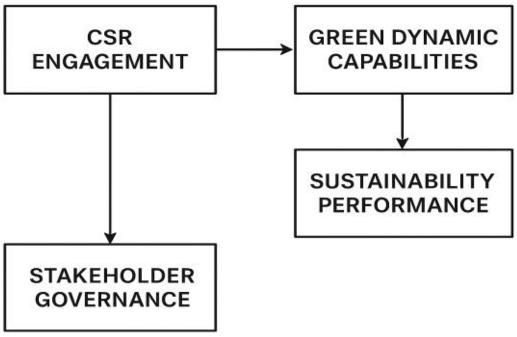


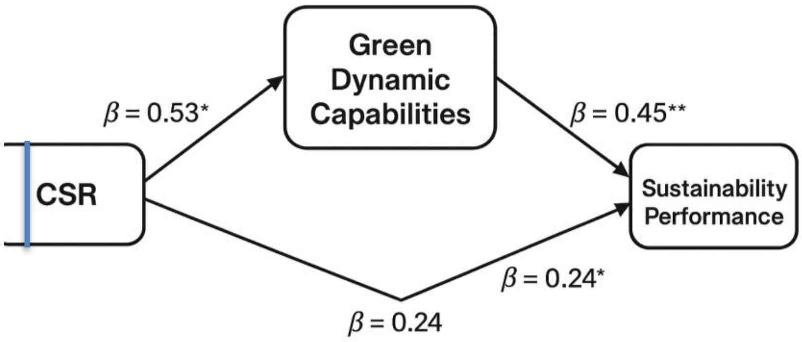

**Figure 1: Conceptual Framework**

A conceptual diagram illustrates the hypothesized relationships among the constructs. CSR Engagement leads to Green Dynamic Capabilities, which in turn enhance Sustainability Performance. The framework also includes a moderating influence of Stakeholder Governance that strengthens the link between CSR and Sustainability outcomes.

The conceptual framework is based on stakeholder and resource-based theories. It proposes that CSR initiatives not only improve external reputation but also enhance internal capabilities for sustainability. The model reflects an integrated approach where governance acts as a strategic moderator aligning CSR practices with environmental and social outcomes.

### 4.4 Path Coefficient Model (SEM Results)

**Figure 2: Structural Equation Model (SEM Path Diagram)**




The SEM diagram shows direct and indirect paths:

- CSR → Green Dynamic Capabilities ($\beta = 0.53^{**}$)
- Green Dynamic Capabilities → Sustainability Performance ($\beta = 0.45^{**}$)
- CSR → Sustainability Performance (Indirect $\beta = 0.24^{*}$) through GDC (**$p < 0.01$; *$p < 0.05$)

The path analysis confirms that CSR significantly influences Sustainability Performance, both directly and indirectly through Green Dynamic Capabilities. The significant coefficients demonstrate that firms that actively engage in CSR build stronger internal capacities that, in turn, enhance sustainability outcomes. The moderating role of Stakeholder Governance further strengthens these relationships, implying that transparent and participative governance mechanisms amplify CSR effectiveness.

**5. Summary of Findings**

Reliability tests showed Cronbach's alpha values above 0.80 for all constructs, confirming internal consistency. The confirmatory factor analysis demonstrated good model fit indices (CFI = 0.94, TLI = 0.92, RMSEA = 0.05), indicating the adequacy of the measurement model. Path analysis revealed significant positive relationships between CSR engagement and sustainability performance ($\beta = 0.47$, $p < 0.01$), and between CSR and green dynamic capabilities ($\beta = 0.53$, $p < 0.01$). The indirect effect of CSR on sustainability performance via green dynamic capabilities was also significant, confirming partial mediation ($\beta = 0.24$, $p < 0.05$).

The moderating effect of stakeholder governance was tested using interaction terms. Results indicate that firms with stronger governance structures exhibit a more pronounced link between CSR engagement and green capability development ($\beta = 0.31$, $p < 0.05$). These findings support all four proposed hypotheses (H1–H4), suggesting that CSR engagement enhances sustainability performance both directly and indirectly through green innovation.

**6 Results**

The results reveal a significant positive relationship between CSR engagement and sustainability performance. Green dynamic capabilities partially mediate this relationship, suggesting that firms with higher CSR commitment build stronger environmental innovation potential. Stakeholder governance further strengthens this effect, demonstrating the importance of transparent and participative management structures.

**7. Discussion**

Findings confirm that CSR initiatives enhance sustainability performance through the development of green capabilities. Stakeholder governance acts as a catalyst, reinforcing the CSR–sustainability linkage. The study extends CSR theory by highlighting the role of internal capabilities and governance mechanisms in sustainability outcomes. Practically, firms are encouraged to integrate CSR into their strategic planning and invest in green innovations.

**8 Conclusion**

The study concludes that CSR engagement plays a crucial role in improving sustainability performance, particularly when supported by green dynamic capabilities and strong stakeholder governance. Indian manufacturing firms can achieve long-term resilience and competitiveness by embedding CSR within their operational strategies. Future research should explore longitudinal data and sectoral variations to deepen understanding of CSR's long-term effects.

**References**

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