Aligning Corporate Social Responsibility with National Innovation Systems: How Multinational Enterprises Can Strengthen Sustainable Development Goal Outcomes in Nigeria and India

Koleayo Omoyajowo[1], Jyoti Gupta[2*], Sunday Amiolemen[3], Aziba-anyam Gift Raimi[4], Victor Sobanke[3], Kayode Atoye[5]

[1]Department of Cell Biology and Genetics (Environmental Biology) University of Lagos, Akoka
[2]Department of African Studies, Faculty of Social Sciences, University of Delhi, India
[3]National Centre for Technology Management, Lagos, Nigeria
[4]Department of Business Administration, Federal University Otuoke, Nigeria
[5]Plaster Graduate School of Business, University of the Cumberlands, Kentucky, USA

[*]Corresponding Author:
Email: jgupta@as.du.ac.in

Article Information	Abstract
     Note: The views expressed in this article are exclusively those of the authors and do not necessarily reflect the positions of their affiliated organizations, the publisher, the editors, or the reviewers. Any products discussed or claims made by their manufacturers are not guaranteed or endorsed by the publisher. **Edited by:** Prof. José Mvuezolo Bazonzi (iD) Prof. Benjamin Mwadi Makengo (iD)	Multinational enterprises (MNEs) are increasingly central to development trajectories in emerging economies through foreign direct investment (FDI) and corporate social responsibility (CSR). Despite rising CSR expenditures in countries such as Nigeria and India, progress towards several Sustainable Development Goals (SDGs) remains uneven, raising concerns regarding the effectiveness of prevailing CSR approaches. This study examines how MNE-led CSR initiatives can be more effectively aligned with national innovation systems (NIS) to enhance sustainable development outcomes. Adopting a qualitative, theory-driven content analysis of academic literature, policy documents, and secondary CSR datasets, the study finds that CSR activities are often implemented as fragmented philanthropic interventions, with weak institutional linkages to local innovation systems, skills formation, and technology diffusion mechanisms. This constrains their potential long-term contribution to SDG achievement. By conceptualizing CSR as an institutional component of national innovation systems rather than a standalone corporate obligation, the paper advances a CSR–SDG–NIS integration perspective. The study contributes to international business and development scholarship by clarifying how MNEs can move beyond symbolic or project-based CSR towards innovation-driven, measurable, and systemically embedded contributions to the 2030 Sustainable Development Agenda.

Keywords: Multinational Enterprises (MNEs); Corporate Social Responsibility (CSR); Sustainable Development Goals (SDGs); National Innovation Systems (NIS); Developing Economies; Foreign Direct Investment (FDI) |

INTRODUCTION

Multinational enterprises (MNEs) occupy a pivotal position in the contemporary global economy, shaping production, trade, and development through their integration into global value chains. By coordinating activities across multiple jurisdictions, MNEs mobilize capital, technology, managerial expertise, and organizational capabilities that significantly influence host-country economic performance. Empirical evidence indicates that MNEs account for a substantial share of global output and exports, making them critical drivers of foreign direct investment (FDI) flows to developing economies (UNCTAD, 2005). Governments in countries such as Nigeria and India actively court MNEs as catalysts for industrialization, employment creation, technology transfer, and integration into global markets, with FDI widely regarded as a mechanism for enhancing productivity and supporting the growth of micro, small, and medium-sized enterprises (MSMEs) (OECD, 2023).

Beyond their economic contributions, MNEs exert profound social and environmental impacts in host countries. While FDI can facilitate access to cleaner technologies, skills development, and improved corporate practices (Kurtishi-Kastrati, 2013), MNE activities have also been associated with environmental degradation, public health risks, and social dislocation, particularly in contexts characterized by weak regulatory enforcement. Pollution arising from extractive, manufacturing, and agro-industrial operations poses direct threats to several Sustainable Development Goals (SDGs), including good health and well-being (SDG 3), clean water and sanitation (SDG 6), climate action (SDG 13), and ecosystem protection (SDGs 14 and 15). These tensions underscore the dual role of MNEs as both enablers of development and potential sources of sustainability risk, intensifying expectations that firms move beyond profit maximization towards broader societal accountability.

Corporate social responsibility (CSR) has emerged as the primary framework through which MNEs seek to address their social and environmental obligations in developing countries. Corporate social responsibility reflects an expanded conception of business–society relations in which firms assume responsibility for the social consequences of their operations (Dunphy *et al.*, 2007). However, CSR practices remain highly heterogeneous, shaped by sectoral dynamics, governance regimes, and political contexts, and lack a universally accepted operational definition (Lenssen, 2007). Country-specific CSR dynamics in Nigeria demonstrate practical discrepancies between policy intentions and implementation outcomes (Hassan *et al.*, 2024; Udegbe, 2024). Crucially, CSR initiatives are not synonymous with SDG implementation. Although the United Nations recognizes the private sector as a key partner in achieving the 2030 Agenda, evidence from Nigeria and India suggests that rising CSR expenditures have not translated into commensurate progress across several SDG indicators. CSR investments, often concentrated in education, health, and community development frequently lack coordination, impact measurement, and integration with national development strategies.

A central limitation of prevailing CSR approaches lies in their weak institutional embeddedness. Many CSR initiatives operate as standalone philanthropic projects, disconnected from domestic innovation ecosystems, skills development systems, and technology diffusion mechanisms. National innovation systems (NIS) theory emphasizes that sustainable development outcomes depend on interactions among firms, governments, educational institutions, and research organizations in generating and diffusing knowledge (Lall, 1992; Lundvall, 1992; Narula & Guimón, 2009). Where CSR activities are poorly aligned with these systems, their capacity to support structural transformation, absorptive capacity, and inclusive growth remains limited. This disconnect is particularly pronounced in developing economies, where institutional fragmentation constrains the translation of corporate initiatives into durable SDG outcomes.

Against this backdrop, this study examines how MNE-led CSR activities can be strategically aligned with national innovation systems to enhance the effectiveness of SDG implementation in developing countries, using Nigeria and India as illustrative cases. The study addresses three research questions: (1) To what extent do prevailing MNE CSR practices align with priority

SDGs in Nigeria and India? (2) What institutional and policy gaps constrain the developmental effectiveness of CSR initiatives? (3) How do national innovation systems mediate the translation of CSR investments into sustained economic, social, and environmental outcomes? By repositioning CSR within an innovation-systems framework, the paper contributes to international business and development debates on moving from fragmented philanthropy towards accountable, innovation-driven corporate engagement with the 2030 Agenda.

LITERATURE REVIEW
Corporate Social Responsibility in Multinational Enterprises
Corporate social responsibility (CSR) has evolved from a discretionary philanthropic activity into a broader governance construct encompassing firm obligations to multiple stakeholders (Carroll 2021, Kargbo, Terrence, & Palmer, 2025). Recent reviews show a growing importance of CSR as a strategic contributor to sustainable development, although motivation and alignment vary widely across contexts (Vargas-Merino & Rios-Lama, 2023). Carroll's (1991) CSR pyramid remains a foundational model, framing CSR as comprising economic, legal, ethical, and philanthropic responsibilities. Subsequent scholarship has extended this framework by emphasizing strategic CSR, stakeholder engagement, and accountability within global value chains, particularly for multinational enterprises (MNEs). In developing-country contexts, CSR practices are frequently shaped by weak regulatory enforcement, legitimacy pressures, and reputational concerns, resulting in uneven implementation across sectors and firms (Lenssen, 2007; Kolk & van Tulder, 2006). Studies reveal a tendency for MNE CSR to focus on philanthropy rather than structural transformation, especially in emerging markets (Rao-Nicholson *et al.*, 2024).

For MNEs, CSR is further complicated by cross-border accountability, divergent institutional environments, and complex stakeholder expectations. Empirical studies demonstrate that while MNEs often articulate ambitious social and environmental commitments, implementation frequently prioritizes visibility, risk management, and compliance over deep developmental integration. As a result, CSR commonly persists as

project-based social investment rather than a mechanism for long-term structural transformation in host economies. Comprehensive reviews highlight innovation-driven CSR as a priority research area, particularly for linking CSR to global sustainability objectives (Patil *et al.*, 2025)

Business Engagement with the Sustainable Development Goals
The adoption of the United Nations 2030 Agenda marked a turning point in framing business as a central actor in sustainable development. The SDGs explicitly call on the private sector to contribute through responsible investment, innovation, and partnerships (United Nations, 2015). A growing body of international business literature highlights the potential of MNEs to support SDG achievement through employment creation, skills development, technology diffusion, and environmentally responsible practices (Ghauri, 2022).

However, recent systematic reviews and large-scale empirical studies indexed in Scopus and Web of Science reveal a persistent implementation gap. Corporate engagement with the SDGs is often characterized by selective alignment, narrative reporting, and symbolic adoption rather than measurable operational change (Heras-Saizarbitoria *et al.*, 2022; Thammaraksa *et al.*, 2024). While CSR expenditure is increasingly mapped onto specific SDGs—particularly education (SDG 4), health (SDG 3), and decent work (SDG 8), evidence suggests that such alignment does not reliably translate into sustained development outcomes. This decoupling between SDG reporting and real-world impact has become a central concern in sustainability governance scholarship.

National Innovation Systems and Sustainable Development
National innovation systems (NIS) theory provides a robust analytical framework for understanding why CSR investments often fail to generate durable SDG outcomes. Originating from the work of Freeman (1987), Lundvall (1992), and Nelson (1993), the NIS approach conceptualises innovation as an interactive, institutionally embedded process involving firms, governments, universities, and research organisations. Sustainable development outcomes, from this

perspective, depend on the strength of learning systems, policy coherence, and knowledge diffusion mechanisms.

Complementary research on absorptive capacity underscores that economies require prior knowledge, skills, and institutional readiness to recognize, assimilate, and apply external resources (Cohen & Levinthal, 1990). In developing countries, structural constraints such as skills shortages, weak research–industry linkages, fragmented governance, and policy discontinuities often limit the developmental returns from foreign investment and corporate initiatives (Lall, 1992). Recent studies further demonstrate that countries with stronger innovation systems tend to perform better across multiple SDG indicators, particularly those related to industrial upgrading and sustainability transitions. Recent sustainability scholarship further demonstrates that financial depth, technological infrastructure, and institutional quality act as critical transmission mechanisms through which corporate engagement translates into Sustainable Development Goal (SDG) outcomes. Evidence from advanced economies shows that financial market sophistication, digital infrastructure, and institutional coordination condition whether corporate environmental, social, and governance (ESG) practices generate substantive sustainability impacts or remain symbolic (Tong *et al.*, 2026). From a National Innovation Systems (NIS) perspective, these drivers function as system-level enablers, shaping firms' capacity to internalize sustainability objectives, mobilize capital for innovation, and diffuse environmentally responsible technologies across production networks. Where such institutional and technological foundations are weak, ESG-aligned corporate initiatives—including CSR investments—are less likely to yield durable development outcomes, reinforcing the centrality of innovation systems in mediating business contributions to the SDGs.

National Innovation Systems as the Missing Link

Nigeria's National Innovation System (NIS) has remained underdeveloped and fragile since independence, marked by weak institutional linkages, insufficient investment, and poorly developed innovation infrastructure (Leo, 2022).

This characterization is supported by national-level evidence. The 2020 National Business Innovation Survey describes Nigeria's innovation system as structurally fragile and stresses the critical need for consistent investment in science, technology, and innovation (STI) to drive sustainable economic growth (Olatunji, 2020). Empirical research further links these systemic weaknesses to enduring barriers to technological diffusion, including inadequate research facilities, limited human capital formation, and unstable policy environments, all of which constrain the system's ability to promote innovation and learning (Uchechukwu, Faga, & Obiekwe, 2016).

Recent firm-level studies in Nigeria further highlight the institutional limitations that restrict the effectiveness of CSR-driven sustainability outcomes. Evidence from manufacturing SMEs in Lagos and Ogun States reveals very low uptake of Environmental Management Systems (ISO 14001), limited awareness of environmental policy requirements, and substantial capacity challenges related to skills deficits, financial costs, and weak regulatory support (Amiolemen *et al.*, 2024). These gaps reflect low absorptive capacity among domestic firms and strengthen the argument that CSR interventions, when disconnected from national innovation systems, are unlikely to produce durable SDG outcomes.

The National Innovation Systems (NIS) literature offers a robust framework for understanding why CSR expenditures may fail to yield sustained SDG impacts. Central to the NIS approach is the role of interactive learning and institutional networks in shaping innovation processes, knowledge diffusion, and capability development (Freeman, 1987; Lundvall, 1992; Nelson, 1993). Related scholarship on absorptive capacity emphasizes that firms and economies must possess pre-existing knowledge bases and learning capabilities to identify, assimilate, and utilize external knowledge—conditions that are essential for converting foreign investment, CSR initiatives, and corporate technologies into meaningful domestic development outcomes (Cohen & Levinthal, 1990). In developing country contexts, persistent structural challenges—including skills shortages, weak research–industry connections, inadequate technological infrastructure, and policy inconsistency—often limit the developmental

impact of external corporate resources. Lall (1992) similarly demonstrates that technological capability accumulation does not occur automatically but depends on intentional institutional support and learning mechanisms, reinforcing the view that the effectiveness of CSR is shaped by national capability ecosystems rather than by the scale of expenditure alone.

Linking CSR, Innovation, and Capability Building

An emerging stream of literature examines CSR as a potential driver of innovation and capability building rather than merely a social compliance tool. Empirical evidence suggests a positive association between CSR engagement and green innovation, environmental performance, and long-term competitiveness, particularly where supportive institutional frameworks exist. CSR initiatives that invest in skills development, research collaboration, and technology incubation are more likely to generate learning spillovers and productivity gains. Dzhunushalieva and Teuber (2024) offers bibliometric evidence that innovation is a key driver of SDG progress across sectors, supporting the argument that CSR needs to embed innovation system linkages for stronger development impact.

Emerging empirical evidence further suggests that ESG-oriented practices represent an operational extension of corporate social responsibility when embedded within supportive financial and technological systems. Studies show that ESG performance is strongly conditioned by access to financial markets, digital infrastructure, and institutional coordination, which jointly determines firms' ability to invest in innovation, environmental upgrading, and socially inclusive practices (Tong *et al.*, 2026). In developing economies, however, these enabling conditions are uneven, limiting the capacity of CSR initiatives to scale beyond short-term social provisioning. From an NIS standpoint, ESG effectiveness therefore depends not only on corporate intent but on the surrounding innovation ecosystem that governs learning, investment, and diffusion processes.

Within this literature, MNEs are recognised as potential catalysts for upgrading national innovation systems through supplier development, collaborative research and development, and

workforce training. However, these benefits are highly contingent on host-country policies that incentivise local embeddedness rather than enclave-style operations (Narula & Guimón, 2009; Guimón, 2011). When CSR initiatives are institutionally linked to education systems, vocational training, research institutions, and local enterprises, they are more likely to contribute to innovation-driven SDGs, particularly SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production). Empirical evidence from India corroborates that CSR priorities remain concentrated in health and education, with limited innovation focus (Poddar *et al.*, 2025). Udegbe (2024) observed that multinational corporations in Nigeria employ CSR to support sustainable development, revealing the challenges of translating CSR initiatives into national SDG progress in the Nigerian context. Country-specific CSR dynamics in Nigeria demonstrate practical discrepancies between policy intentions and implementation outcomes (Hassan *et al.*, 2024; Udegbe, 2024)

Conceptual Gap and Contribution

Despite extensive research on CSR, SDGs, and innovation systems, the literature reveals a persistent gap: CSR expenditure levels and formal mandates do not guarantee measurable SDG progress. Evidence from India's mandatory CSR regime demonstrates that while regulation can shape corporate behaviour, developmental outcomes remain uneven and spatially concentrated (Dharmapala & Khanna, 2016; Aswani *et al.*, 2021). Similarly, evidence from Nigeria highlights governance and accountability challenges that limit the effectiveness of voluntary CSR initiatives.

This study addresses this gap by advancing a CSR–SDG–NIS integration perspective that explicitly positions national innovation systems as the mediating structure through which corporate social responsibility investments translate into sustainable development outcomes. By doing so, the paper extends prior scholarships beyond expenditure-based or reporting-focused analyses and offers an institutionally grounded framework for understanding how MNE-led CSR can contribute to systemic, innovation-driven development in emerging economies.

Conceptual Framework: Integrating CSR, National Innovation Systems, and SDG Outcomes
Figures 1a and 1b are conceptual representations developed by the authors to illustrate theorized relationships rather than empirically estimated pathways. The framework positions corporate social responsibility (CSR) as an institutional input rather than a standalone corporate outcome, highlighting the mediating role of national innovation systems (NIS) in converting CSR initiatives into sustainable development outcomes.
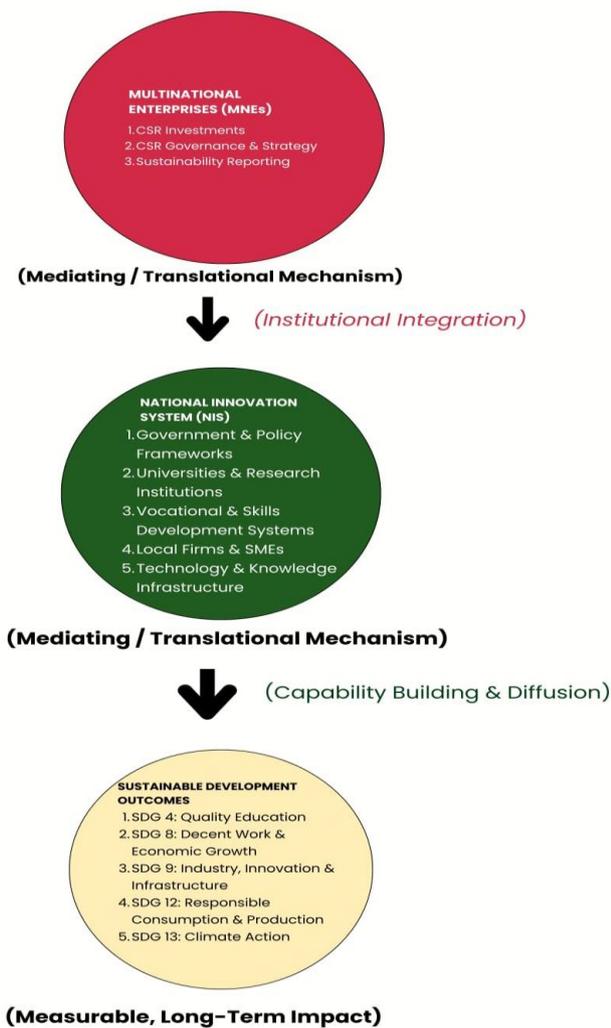

Figure 1a: Conceptual Framework Linking Corporate Social Responsibility, National Innovation Systems, and Sustainable Development Goal Outcomes

At the firm level, multinational enterprises implement CSR through financial investments, skills development, environmental management, and community engagement. The developmental impact of these activities, however, depends on their alignment with national innovation systems encompassing government policy, research and educational institutions, industry networks, and regulatory structures. Emerging empirical evidence demonstrates that CSR can enhance innovation, employee creativity, and corporate contributions to the UN Sustainable Development Goals, reinforcing the CSR–innovation nexus (Ahmad *et al.*, 2024).

As illustrated in Figure 1b, institutional coordination, absorptive capacity, and quality governance condition the extent to which CSR inputs generate learning spillovers, technological diffusion, and capability development. These mechanisms subsequently shape progress toward innovation-led and social SDGs, particularly SDG 9 (Industry, Innovation and Infrastructure), SDG 8 (Decent Work and Economic Growth), and SDG 12 (Responsible Consumption and Production). By explicitly integrating CSR within national innovation systems, the framework provides a coherent analytical basis for explaining why comparable levels of CSR investment produce divergent SDG outcomes across developing economies.
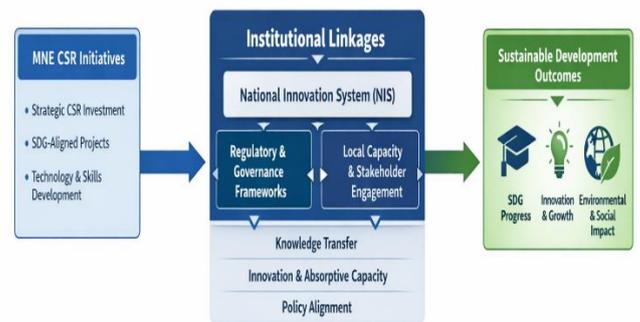
Figure 1b: A System Framework between MNE CSR and Sustainable Development Goal Outcomes

MATERIALS AND METHODS
Research Design
The study adopts a qualitative, theory-driven research design based on systematic content analysis. This approach is appropriate for examining institutional and policy linkages among CSR, SDGs, and national innovation systems, where causal relationships are complex and context dependent. The objective is analytical

generalization and theory development rather than statistical inference.

Data Sources and Search Strategy

A structured literature search was conducted using Google Scholar and the Web of Science Core Collection, supplemented by reports from the United Nations, OECD, UNCTAD, and national CSR repositories, particularly India's National CSR Portal. Peer-reviewed articles, policy reports, and authoritative institutional publications published in English were included.

Selection Criteria and Analysis

Following screening and eligibility assessment, 54 sources were retained for analysis. A thematic content analysis was conducted using deductive coding based on CSR theory, SDG governance, and NIS frameworks, complemented by inductive identification of emergent themes relating to

governance gaps and coordination failures. Analytical rigour was enhanced through data triangulation and iterative coding.

RESULTS

**Trends in Corporate Social Responsibility Expenditure**

Figure 2 illustrates the trend in aggregate corporate social responsibility (CSR) expenditure in India between 2017–18 and 2021–22, based on data from the Government of India's National CSR Portal. CSR spending increased steadily from INR 170.99 billion in 2017–18 to INR 262.79 billion in 2021–22 (Figure 1), reflecting growing compliance with mandatory CSR requirements. However, the upward expenditure trend does not indicate whether CSR investments are structurally aligned with long-term development or innovation objectives.
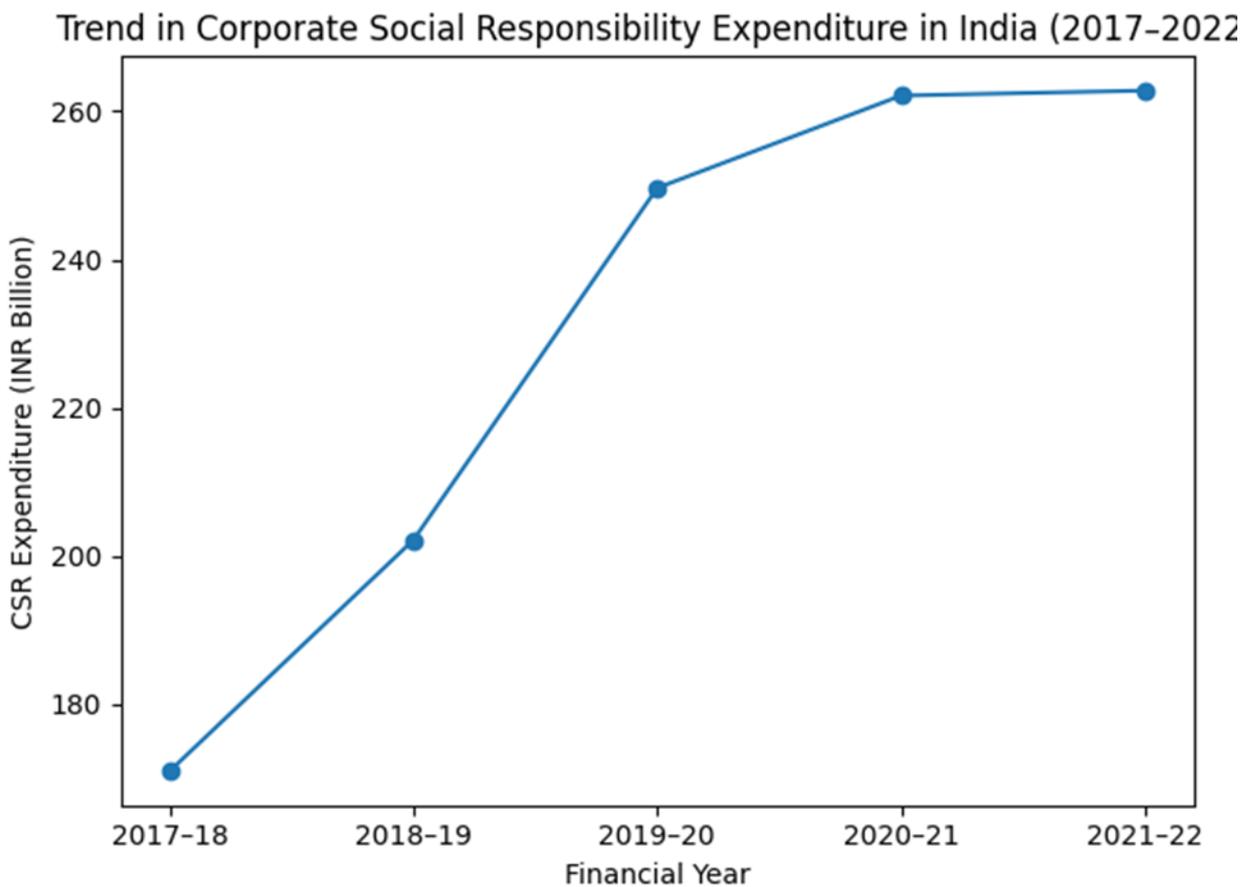
Figure 2: Trend in Corporate Social Responsibility Expenditure in India (2017–2022)
Source: Ministry of Corporate Affairs, Government of India (National CSR Portal)

Sectoral Distribution of CSR Spending and SDG Alignment

As shown in Figure 3, CSR expenditure is heavily concentrated in education and healthcare, which together account for the majority of total allocations. These sectors primarily support SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being). In contrast, investment in innovation-oriented activities—particularly technology incubators and research infrastructure linked to SDG 9 (Industry, Innovation and Infrastructure)—remains minimal. Table 1 summarises the degree of alignment between CSR spending patterns and selected SDGs, highlighting a strong bias towards social service-oriented goals and weak engagement with innovation-driven and production-related SDGs.
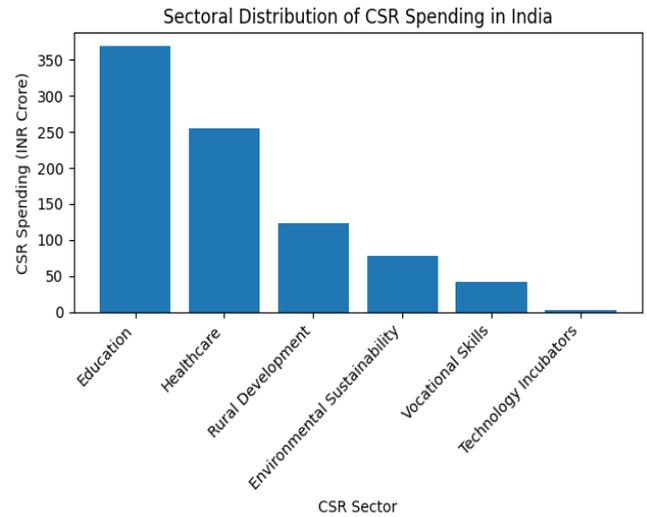
Figure 3: Sectoral Distribution of CSR Spending in India
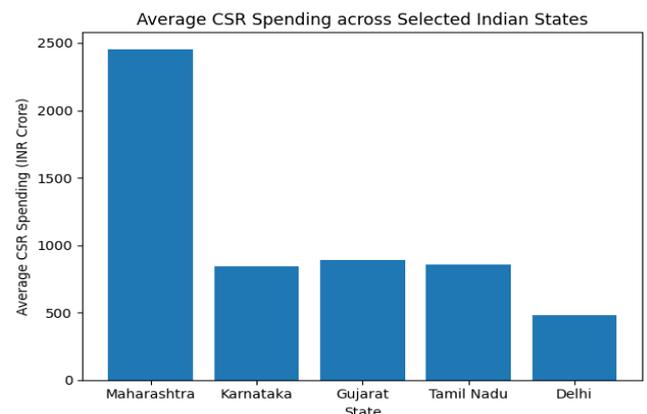**Source:** Ministry of Corporate Affairs, Government of India (National CSR Portal)

Table 1: Alignment between CSR Spending and Selected Sustainable Development Goals

Sustainable Development Goal (SDG)	CSR Coverage Level	Empirical Basis
SDG 3- Good health and Well-being	High	Health care projects dominate CSR dominate CSR allocations in both India and Nigeria
SDG 4- Quality Education	High	Education receives the largest share of CSR funding
SDG 8- Decent work and Economic Growth	Moderate	Skills training and SME support present, but uneven
SDG 9- Industry, Innovation and Infrastructure	Very low	Minimal investment in technology incubators and R&D-linked CSR
SDG 12- Responsible Consumption and Production	Low	Limited lifecycle, circular economy, or cleaner production initiatives
SDG 13- Climate Action	Moderate	Environmental CSR increasing but remains project-based

Source: Abdullah & Mansor (2024)

Spatial Distribution of CSR Investments

Figure 4 presents the geographic distribution of CSR spending across selected Indian states. The results show a strong concentration of CSR investments in economically advanced and industrialized states such as Maharashtra, Karnataka, and Gujarat. This spatial clustering suggests that CSR investments tend to follow existing industrial and economic hubs rather than being directed towards lagging regions with weaker innovation capacity and greater development needs.

Figure 4: Average CSR Spending across Selected Indian States
Source: Ministry of Corporate Affairs, Government of India (National CSR Portal; authors' aggregation)

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Firm-Level CSR Patterns in Nigeria

Firm-level evidence from Nigeria indicates that CSR initiatives are predominantly voluntary, fragmented, and weakly institutionalized. CSR activities are typically focused on community development, education, and health-related interventions, with limited integration into national innovation or industrial development strategies. Governance challenges, limited transparency, and weak impact assessment further constrain the contribution of CSR to sustained SDG outcomes.

DISCUSSION

CSR Expansion without Structural Transformation

The results demonstrate that rising CSR expenditure, particularly in India, has not translated into proportionate progress across innovation-driven or structural SDGs. Although Figure 2 shows a sustained increase in CSR spending, Figures 3 and 4 reveal persistent sectoral and spatial concentration. This pattern suggests that CSR expansion remains largely philanthropic and compliance-oriented, rather than strategically embedded within national development and innovation frameworks.

Misalignment between CSR and Innovation-Driven SDGs

The sectoral allocation of CSR funds (Figure 3), together with the SDG alignment summary in Table 1, highlights a pronounced underinvestment in innovation-related activities. Despite the centrality of innovation to productivity growth, industrial upgrading, and sustainability transitions, CSR allocations to technology incubators and research-oriented initiatives remain marginal. This, limits learning spillovers, absorptive capacity, and the long-term developmental impact of CSR from the perspective of national innovation systems. This finding is consistent with evidence that financial and technological drivers of ESG performance amplify sustainability outcomes only when embedded within coherent national innovation systems, highlighting the limits of CSR and ESG initiatives in institutionally fragmented environments.

Firm-Level Implementation Challenges and Institutional Gaps

Firm-level evidence from Nigeria reveals persistent CSR implementation challenges, including weak impact measurement, governance interference, limited stakeholder engagement, and poor transparency, reflecting broader institutional weaknesses. These constraints are consistent with findings from manufacturing SMEs, where Environmental Management System (EMS) adoption and environmental policy awareness remain low (Amiolemen *et al.*, 2024), as well as from the machine fabrication sector, which exhibits weak technological capability, limited learning mechanisms, and poor institutional linkages, resulting in low innovation and productivity (Amiolemen *et al.*, 2017).

These structural gaps constrain absorptive capacity and explain why CSR and external corporate investments, when not embedded within functional national innovation systems, fail to generate sustained SDG outcomes. Evidence from green computing adoption shows that despite relatively high environmental awareness, implementation is largely limited to low-cost, incremental measures, with minimal engagement in systemic innovation (Omoyajowo *et al.*, 2024). Prior studies warn that weak governance and institutional coordination often reduce CSR to symbolic rather than transformative activities (Deegan, 2002; Abdullah & Mansor, 2024). Sectoral evidence from Nigeria's construction industry further demonstrates that MNE-driven technology and skills spillovers depend primarily on policy and institutional conditions, rather than firm presence alone (Ayeniyo *et al.*, 2025).

Across Nigeria and India, CSR spending remains weakly aligned with innovation-driven SDGs, contributing more to social welfare than to technological upgrading. Recent evidence confirms that CSR delivers sustained development value only when strategically integrated with firm-level innovation and long-term value creation (D'Souza *et al.*, 2024). Consistent with NIS theory, sustained SDG outcomes depend on coordinated learning among firms, research institutions, and government actors (Lall, 1992; Lundvall, 1992). Overall, the findings indicate that while CSR partially supports social SDGs, institutional and coordination gaps limit its developmental impact in the absence of strong national innovation systems.

Spatial Inequality, Absorptive Capacity, and Institutional Embeddedness

Figure 4 shows that CSR investments are geographically concentrated in economically advanced regions. This spatial bias reflects uneven absorptive capacities across subnational innovation systems, where stronger institutional environments attract greater corporate engagement. Without complementary public investment and policy coordination, CSR risks reinforcing existing regional inequalities rather than contributing to inclusive development.

National Innovation Systems as Mediating Structures for CSR–SDG Outcomes: A Nigeria–India Comparison

Comparative evidence from Nigeria and India illustrates that the developmental effectiveness of corporate social responsibility (CSR) initiatives is conditioned less by the scale of corporate spending than by the institutional coherence and functional maturity of national innovation systems (NIS). While regulatory design matters, particularly the distinction between India's mandatory CSR regime and Nigeria's predominantly voluntary framework, regulatory compulsion alone is insufficient to guarantee sustained Sustainable Development Goal (SDG) outcomes in the absence of strong innovation-system integration.

Table 2 synthesizes key dimensions of national innovation system conditions mediating CSR–SDG linkages in both countries. The comparison indicates that India's comparatively denser and more coordinated innovation ecosystem provides institutional pathways through which CSR investments can be aligned with skills formation, knowledge diffusion, and productivity-enhancing activities. Mandatory CSR legislation under India's Companies Act operates alongside higher public and private investment in research and development (R&D), more extensive university–industry linkages, and a broader network of public research institutions and intermediary agencies. National indicators suggest that India's R&D expenditure, estimated at approximately 0.85% of GDP, substantially exceeds Nigeria's level of below 0.25%, contributing to higher absorptive capacity and more effective translation of CSR-funded initiatives into innovation-oriented development outcomes (Babalola *et al.*, 2017).

Table 2: Comparative National Innovation System Conditions Mediating CSR–SDG Outcomes in Nigeria and India

Dimension	Nigeria	India	System-Level Implication
CSR Regulatory Framework	Voluntary, weak enforcement	Mandatory CSR (Companies Act)	Stronger institutional anchoring in India
R&D Intensity	Low, fragmented	Moderate, coordinated	Higher absorptive capacity in India
University–Industry Linkages	Weak, ad hoc	Institutionalized partnerships	More effective knowledge spillovers
Innovation Governance	Fragmented agencies	Coordinated national strategy	Policy coherence enhances CSR leverage
CSR Orientation	Philanthropic, project-based	Strategic, capability-oriented	Different pathways to SDG alignment
CSR–Innovation Integration	Limited	Moderate to strong	System maturity conditions outcomes

Source: Authors' synthesis informed by Babalola *et al.* (2017) and the present study's analysis of national policy documents, World Bank, OECD, and WIPO reports

By contrast, Nigeria's CSR activities are embedded within a fragmented and weakly connected national innovation system. Existing evidence points to persistent deficits in innovation inputs, including limited R&D financing, low research density, inadequate infrastructure, and underdeveloped commercialization channels (Babalola *et al.*, 2017). Firm-level studies further indicate that innovation outcomes in Nigeria are driven largely by suppliers and competitors, while universities, public research institutes, and government agencies exert minimal

influence on firm innovation performance. This pattern reflects systemic discontinuities within the Nigerian NIS, where critical financial, regulatory, and knowledge flows remain insufficiently coordinated.

These structural differences help explain why CSR initiatives in Nigeria tend to remain philanthropic and project-based, with limited spillover or scaling potential, whereas comparable CSR investments in India more readily support SDG-aligned outcomes through integration with education systems, innovation programs, and public policy frameworks. In contexts where innovation intermediaries and state–industry–academia linkages are weak, CSR activities struggle to extend beyond short-term social provisioning, reinforcing their symbolic rather than transformational character.

Overall, the Nigeria–India comparison underscores that CSR effectiveness is conditional on national innovation system quality. Mandatory CSR requirements may enhance accountability, but it is the presence of robust NIS structures—R&D capacity, institutional coordination, and absorptive capability—that ultimately shapes whether CSR contributes to sustained development outcomes. Without parallel investment in innovation systems, CSR spending alone is unlikely to deliver durable SDG impacts in developing economies.

To complement the comparative synthesis in Table 2, the following subsection presents contextual diagnostics of Nigeria's innovation environment.

Contextual Diagnostics of Nigeria's Innovation Environment

Table 3 provides a descriptive overview of Nigeria's macroeconomic and innovation-system conditions over the period 2013–2022. The indicators reveal a persistent mismatch between rising CSR expenditures—particularly among multinational enterprises—and weak innovation and productivity outcomes. While modest improvements are observed in human capital indicators, national investment in research and development remains low, patenting activity is limited, and industrial value added continues to concentrate in low-technology sectors. These conditions are further compounded by macroeconomic volatility, including high inflation and sustained exchange rate depreciation, which elevate the cost and risk of innovation activities. Importantly, per capita GDP growth remains inconsistent, suggesting that innovation inputs have not translated into broad-based productivity gains.

Implications for CSR–SDG–NIS Integration

Taken together, the findings support the paper's central argument that CSR effectiveness depends less on expenditure levels and more on institutional embeddedness within national innovation systems.

Table 3: Contextual Diagnostics of Innovation Indicators, Macroeconomic Conditions, and Growth in Nigeria (2013–2022)

Indicator	Directional Pattern	Observed Condition	System-Level Interpretation
R&D Expenditure (GERD)	Persistently low	<0.3% of GDP	Constrained knowledge production
Patent Applications (Residents)	Flat / declining	Limited domestic output	Weak inventive and absorptive capacity
Human Capital Index	Gradual improvement	Incremental gains	Skills growth not matched by demand
Inflation	Highly volatile	Frequent spikes	Elevated risk for innovation investment
Exchange Rate	Persistent depreciation	Structural instability	Higher cost of innovation inputs
GDP per Capita Growth	Inconsistent	Weak productivity linkage	Innovation–growth decoupling
Industrial Value Added	Modest	Low-tech concentration	Limited structural transformation
MNE-led CSR Spending	Increasing	Predominantly philanthropic	Weak system integration

Source: Authors' synthesis drawing on Babalola *et al.* (2017); Ezenwakwelu *et al.* (2024); World Bank (2019, 2025); OECD (2022, 2023); and WIPO (2025)

Aligning CSR initiatives with skills development, research collaboration, and technology diffusion mechanisms can enhance their contribution to innovation-driven SDGs and long-term sustainable development.

POLICY IMPLICATIONS

The study highlights several policy implications. Governments should shift CSR frameworks from expenditure-based compliance towards outcome-oriented evaluation linked to SDG targets and innovation capacity. National innovation systems should be explicitly integrated into CSR governance through incentives for partnerships with educational institutions, research organizations, and local enterprises. Additionally, region-sensitive CSR policies are needed to address spatial inequalities, alongside strengthened monitoring and stakeholder participation to enhance transparency and accountability. Furthermore, governments should explicitly recognize CSR as an instrument of national innovation policy by incentivizing CSR-funded collaborations with universities, research institutes, and vocational training systems.

CONCLUSION

This study examined how aligning multinational enterprises' corporate social responsibility initiatives with national innovation systems can strengthen Sustainable Development Goal outcomes in developing economies, using Nigeria and India as illustrative cases. Drawing on a qualitative, theory-driven synthesis of Scopus-indexed academic literature, international policy reports, and secondary CSR datasets, the study demonstrates that although CSR engagement and expenditure have increased substantially, their developmental impact remains constrained by weak institutional integration, geographic concentration, and a dominant focus on philanthropic rather than innovation-oriented initiatives.

The findings reveal a persistent tendency toward misalignment between CSR practices and innovation-driven SDGs, particularly those associated with industrial upgrading, technological capability development, and sustainable production. Firm-level evidence further highlights recurring challenges related to governance, transparency, and impact measurement, which undermine learning spillovers and long-term development benefits. These patterns reinforce the central argument of the paper: CSR effectiveness depends less on the scale of corporate spending and more on its institutional embedding within national innovation systems.

By advancing a CSR–SDG–NIS integration framework, this study contributes to international business, development economics, and sustainability governance scholarship by clarifying how corporate engagement can move beyond fragmented social investment towards systemic, outcome-oriented development support. Future research may extend this framework through firm-level impact evaluations, comparative cross-country analysis, and quantitative modelling of CSR–innovation–SDG linkages across a broader range of developing economies.

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