

Enhancing Business Competitiveness through CSR and Green Leadership: Evidence from Indian SMEs

Abstract

Drawing on RBV and Stakeholder Theory, this study proposes a model and explores the impact of CSR and green leadership on green innovation and business competitiveness of Small and Medium Enterprises (SMEs) within India's diverse economic environment. Data was gathered from 416 manufacturing SMEs across different sectors in India using a random sampling approach. The study employed Partial Least Squares-Structural Equation Modeling (PLS-SEM) to analyze the relationships among CSR activities, environmentally aware leadership, and business competitiveness. The results indicate a significant positive relationship between CSR efforts, green leadership, and SME competitiveness. Partial mediation of green innovations is also confirmed to have significant direct and indirect impacts, underscoring the importance of innovations. Theoretically, this study bridges the literature gap by examining unexplored direct and mediated relationships. Practically, the study offers valuable implications for managers, SME owners, and policymakers. Finally, this study provides limitations and future research directions to extend the debate.

Keywords: Corporate social responsibility (CSR), Green leadership, Green innovation, Business competitiveness, Small and medium enterprises (SMEs), Sustainable business practices, India.

JEL Classification: M14, Q56, L25, L26

Introduction

The contemporary era of environmental awareness, societal expectations, and evolving stakeholder presuppositions requires businesses to go beyond traditional economic objectives and be morally and legally responsible towards the environment, society, organizational stakeholders, and the state. In such a paradigm shift, corporate social responsibility (CSR) and green leadership have emerged as key strategic imperatives for the success of businesses (Freeman et al., 2021; Carroll & Shabana, 2010). The CSR practices have evolved from philanthropic activities to the essential component of competitive business strategy (Freeman et al., 2021; Galbreath, 2009; Porter & Kramer, 2006). Thus, CSR implies that businesses should follow sustainable practices and an ethical framework towards their stakeholders (Usman & Amran, 2015). Alongside CSR, green leadership (GL) has emerged as a key enabler of sustainable value creation due to proactive environmental vision, ethical influence, and engagement of the stakeholders (Chen & Chang, 2013; Robertson & Barling, 2013). Such a dynamic business environment also promotes green innovation (Sarwar et al., 2023). The simultaneous exploration of such concepts is lacking in the literature.

The concept of corporate social responsibility (CSR) lacks a universally accepted definition due to the proliferation of explanations (Werther Jr. & Chandler, 2010), as the definition of CSR is complex and complicated (Sheehy, 2015). Generally, corporate social responsibility

(CSR) is a self-regulating version of enterprises that holds companies responsible to society, stakeholders, and the public. By addressing societal needs and environmental concerns, CSR practices enhance business efficiency, economic gains, and competitiveness (Sarwar et al., 2023). Recently, CSR and Green Leadership (GL) have become focal points in discussions about improving competitiveness and sustainable performance (Sarwar et al., 2023; Khan et al., 2023). CSR involves conducting operations ethically and sustainably, considering the social and environmental repercussions of actions.

Meanwhile, Green Leadership promotes environmental sustainability through various initiatives, including green jobs, to minimize an organization's carbon footprint (Olekanma et al., 2024). Resultantly, such links also enhance the green innovations of business firms of automobile business firms (Sarwar et al., 2023). A study found that CSR activities positively impact firms' innovation performance, suggesting that companies engaging in CSR are more likely to be innovative, giving them a competitive edge (Chen et al., 2014). However, there is a lacuna of further research for the small and medium-sized firms. For small and medium-sized enterprises (SMEs) in the developing economies context, the integration of sustainable practices into business operations is more than a moral obligation, as a strategic move towards competitive necessity (De et al., 2025; Das et al., 2020).

Although large multinational corporations have widely institutionalized corporate social responsibility (CSR) practices, the strategic relevance of CSR and green leadership for enhancing their business performance. However, such a scenario is underexplored, particularly among small and medium-sized enterprises (SMEs), which form the backbone of many emerging economies (Bahta et al., 2021). Business enterprises can derive business success through mechanisms of CSR and green leadership by enhancing reputation, attracting environmentally conscious customers, investors, and unveiling operational efficiencies. Therefore, the particular focus on CSR practices in small and medium-sized enterprises requires consideration and exploration to comprehensively highlight the advantages of sustainability-oriented CSR practices and visionary green leadership (Jamali et al., 2009; Zheng et al., 2022).

Despite the fact, SMEs form the backbone of many emerging economies and contribute significantly to employment, innovation, and economic growth, there are still nascent investigations to understand how sustainability-oriented practices influence the performance of firms (De et al., 2025; Das et al., 2020; Jamali et al., 2009). By considering an emerging economy context, the SME sector of India is an ideal context for investigation. Indian SMEs contribute approximately 30% to the national GDP and employ over 110 million people, forming a vital backbone of the economy (Ministry of MSME, 2023). However, SMEs often face limitations such as resource scarcity, limited access to capital, and low technological development. Such a context can provide even a vital scenario, where CSR initiatives can be complemented with visionary green leadership. Therefore, the resulting transformation can help to achieve societal and environmental goals, alongside enhancing the firms' competitive edge (Khan et al., 2023).

Based on the aforementioned status of the literature, the present study attempts to fill the identified gaps by proposing a conceptual research model. Firstly, this study investigates the direct relationships of CSR and green leadership (GL) on business competitiveness. Secondly, this study also explores the direct impacts of CSR and green leadership (GL) on green innovation (GI). Thirdly, the study explores the indirect impacts of CSR and green leadership (GL) on business competitiveness (BC) through the mediation effect of green innovation (GI). Lastly, this study also attempts to provide valuable insights for SMEs striving to enhance their competitive edge in an evolving market landscape.

This study has some important contributions. This study bridges the domains of corporate social responsibility (CSR), leadership, and strategic competitiveness by proposing a research model. Thus, this study contributes to a deeper understanding of such non-financial initiatives and their relationships with firm competitiveness. Thus, the study contributes to the body of knowledge by clarifying the links of CSR, GL, GI, and BC, by focusing on their direct and indirect relationships. Practically, the implications for decision-makers, managers, and policy-makers are worthwhile to embed sustainability as a core competitive strategy. The insights generated are intended to inform both academic theory and practical decision-making, particularly for managers and policymakers seeking to embed sustainability at the core of competitive strategy. Further, the current research exclusively focuses on the Indian SMEs as an emerging and dynamically growing economy.

Theoretical Framework and Hypotheses Development

Resource-Based View and Stakeholder Theory

Drawing on the theoretical lens of the Resource-Based View (RBV) and Stakeholder Theory of the firm, this study proposes a theoretical framework. RBV theory postulates that firms, which acquire and strategically leverage valuable, rare, inimitable, and non-substitutable (VRIN) resources, often gain an edge over competitors (Chatterjee et al., 2023; Nason & Wiklund, 2018; Barney, 1991). In this context, visionary green leadership, business reputation of the firms, innovation, and corporate social responsibility (CSR) are intangible strategic assets embedded in internal processes and culture. Interestingly, such intangible resources are difficult to quantify, yet play a role in fostering trust, enticing talent, and improving the long-term relationships with key stakeholders, resulting in competitiveness (Teece, 2007; Hart, 1995). The adoption of CSR practices helps in enhancing brand equity and acceptability. Similarly, green leadership assists in internalizing sustainability initiatives by responding adequately to ecological and social challenges.

Stakeholder Theory also complements the RBV theory by emphasizing the balancing of the multiple stakeholders' interests. The interconnected relationships range from business, customers, employees, communities, investors, and regulators, requiring them to be involved in strategic decision-making (Freeman et al., 2021; Lin, 2018; Donaldson & Preston, 1995). Stakeholder theory advocates the notion of interconnected relationships among multiple stakeholders for the legitimacy and survival of business organizations. CSR initiatives engage different stakeholders, strengthening the notion of the firm's ethical conduct, social equity, and environmental stewardship. Essentially, green leadership operationalizes the

values and concerns of stakeholders within their organization through employee motivation and promoting pro-environmental behaviors. Thus, the visionary green leadership aligns the organizational goals with the expectations of relevant stakeholders.

Although the theoretical alignment is justifiable between CSR initiatives, green leadership, and competitiveness, their synergistic effects have received insufficient attention, particularly in the small and medium-sized enterprises (SMEs) of developing countries. The CSR initiatives help to improve the firm's reputation and legitimacy, and attract support from related stakeholders. Likewise, green leadership builds sustainability intrinsically within an organization and creates an alignment between an organization's mission, values, and actions. Such an interplay of CSR and green leaders warrants further investigation, due to their overlooked combined influence towards stronger strategic competitiveness. So far, the current literature just considers these constructs separately (Sarwar et al., 2023; Khan et al., 2023; Agyemang & Ansong, 2017), which lacks an integrated model towards mutual impact. Therefore, this study addresses the mentioned gap by proposing a comprehensive model to explore the roles of CSR, green leadership, mediation of green innovation, and translation into competitiveness.

The subsections below briefly define the substantial constructs, i.e., corporate social responsibility (CSR), green leadership (GL), green innovation (GI), and business competitiveness (BC), considered in this study. Alongside such a description, relevant hypotheses will be developed for further exploration by considering the context of small and medium-sized enterprises.

Corporate Social Responsibility

Corporate social responsibility (CSR) is a strategic approach for businesses at the global level, which has become vital due to enhanced public awareness of environmental and social concerns (Sarwar et al., 2023). CSR encompasses sustainable practices, ethical decision-making, and actions that provide societal benefits, an essential part of contemporary business strategies to attain business success (Robins, 2005). Such a role is especially true for small and medium-sized enterprises (SMEs), as owners often feel themselves responsible for their communities and employees, thus engaging in philanthropic activities to improve societal welfare and business efficiency (Rehman et al., 2022; Zulkiffli et al., 2022; Bodlaj & Čater, 2019). Further, the literature also indicated that CSR practices enhance the agility of SMEs and promote corporate objectives in the developing regions, thus improving performance (Nassani et al., 2022; Jamali & Karam, 2018; Klewitz & Hansen, 2014).

In the contemporary business scenario, CSR is not just a moral obligation but a strategic imperative for businesses striving for enduring success in today's dynamic and socially conscious business environment. CSR initiatives often stimulate eco-innovation, leading to sustainable product and process development, which improves environmental impact, financial performance, and corporate reputation. Moreover, firms committed to CSR are more likely to invest in eco-friendly innovation, which also boost competitiveness (Zhu et al. 2019). In light of the above discussion, we propose the following hypotheses.

Hypothesis 1 (H1): Corporate Social Responsibility (CSR) practices positively influence the Business Competitiveness (BC).

Hypothesis 2 (H2): Corporate Social Responsibility (CSR) practices positively impact Green Innovation (GI).

Green Leadership (GL)

Leadership plays a pivotal role in organizational performance. Environmental concerns, stakeholders' pressure, and societal expectations tapped the leadership to go green. Green leadership is defined by visionary leadership with the capability to influence employees and organizations to realize their vision of ecological sustainability (Egri & Herman, 2000). Green leadership emphasizes environmental sustainability and motivates the team to exceed standard environmental performance (Robertson, 2018), which impacts their competitiveness. By adopting visionary approaches and prioritizing innovation, these leaders empower team members to think creatively and embrace eco-friendly practices, thereby enhancing organizational performance in environmental sustainability (Pasha et al., 2017; Sethibe, 2018). Previous studies show that transformational leadership that goes green significantly boosts firm performance, particularly in contexts where innovation provides a competitive advantage (Donate & de Pablo, 2015). Additionally, cultural nuances influence the effectiveness of leadership in driving environmental management initiatives (Muralidharan & Pathak, 2018). Thus, in light of this discussion, we propose the following hypotheses.

Hypothesis 3 (H3): Green Leadership (GL) positively influences the Business Competitiveness (BC)

Hypothesis 4 (H4): Green Leadership (GL) positively impacts the Green Innovation (GI).

Green Innovation (GI)

Green innovation (GI) is defined as the development of products and services through innovative ways that reduce adverse impacts on the environment and promote sustainability and economic performance. Such innovation is vital to address challenges such as environmental degradation, climate change, resource depletion, and contaminated atmosphere through improved designs and technological practices (OECD, 2009). Green innovation helps to improve energy efficiency, waste minimization, renewable use of resources and minimization carbon footprint (Rennings, 2000). Multiple factors drive towards green innovation, such as regulatory requirements, consumer demands, or corporate social responsibility, which helps in transition towards circular economy and lower levels of carbon emissions (Horbach, 2008).

Green innovation and the implementation of environment-friendly innovative systems not only help in mitigating adverse environmental impacts but also improve the business performance and competitiveness (Adegbile et al, 2017; Dangelico & Pujari, 2010). Investments in sustainable and green technologies also help firms to gain a competitive edge in the eco-conscious business environment (Porter & Linde, 1995). In addition, incentives provided by governments and international organizations in green research make innovation rewarding in terms of performance and strategy (Kemp & Pearson, 2007). Hence, green innovation is at the forefront of tackling sustainability challenges (Bos-Brouwers, 2010). Despite such significance, green innovations in the developing regions are limited (Arici &

Uysal, 2022). Based on the aforementioned evidence, we hypothesize the following hypotheses.

Hypothesis 5 (H5): *Green Innovation (GI) positively influences the Business Competitiveness (BC).*

Business Competitiveness (BC)

Business competitiveness (BC) is a multifaceted business strategy that enables enterprises to earn long-term profits without fear of replication by competitors due to their unique capabilities and strategies. According to Barney (1991), if a firm can keep their competitors at bay from replicating and duplicating the same operating values, it is referred to have a competitive advantage. Contemporary research provides evidence that business competitiveness outperforms rivals through the adaptation of innovation and certain strategies based on their resources (Sarwar et al., 2023). Alternatively, firms are necessarily required to optimally and effectively utilize their valuable, inimitable resources to gain a competitive edge (Lafuente & László, 2021). In short, business competitiveness encompasses several aspects, such as innovation, enhanced operational efficiency, higher product and service quality, and utilization of human capital.

In a globalized era of knowledge economies, small and medium-sized enterprises (SMEs) necessarily leverage their tangible and intangible resources to sustain their competitiveness (Prahalad & Hamel, 1990). The competitiveness of SMEs is not only attained through cost advantages but also through enhancing the agility, stakeholder relationships, continuous improvement, and innovation (Canton, 2021). Precisely, strategic resources of enterprises, such as CSR initiatives, green leadership, and green innovation, play their role to strengthen the business competitiveness (Oruro et al., 2022; Adomako et al., 2023). As mentioned earlier, this present scholarly investigation particularly focuses on the small and medium enterprises (SMEs) in the dynamic Indian market. Thus, business competitiveness in an emerging economy, as India, is strategically important due to the challenges of market volatility, deficient resources, and institutional gaps (De et al., 2025; Das et al., 2020).

We propose the hypotheses of direct relationships based on the interplay of CSR, green leadership, green innovation, and business competitiveness (Hypothesis 1 to Hypothesis 5). In addition, we also propose two indirect hypotheses based on the mediating role of green innovation.

Hypothesis 6 (H6): *Green Innovation (GI) mediates the relationship between Corporate Social Responsibility (CSR) and Business Competitiveness (BC).*

Hypothesis 7 (H7): *Green Innovation (GI) mediates the relationship between Green Leadership (GL) and Business Competitiveness (BC).*

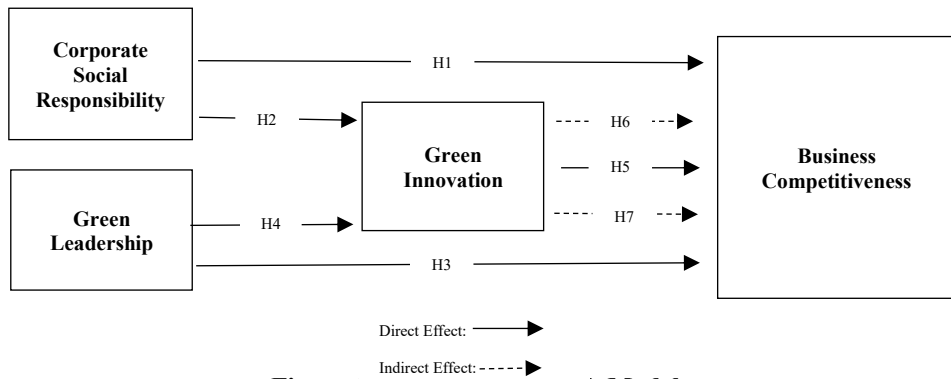


Figure 1 Research Model

Research Methodology

Research Context

This research considers the context of small and medium-sized enterprises of a developing economy, i.e., India, to explore the relationships among CSR initiatives, green leadership, and green innovation. Small and medium-sized enterprises (SMEs) play a crucial role in the economic development of economies and address societal challenges in developing countries (Jamali et al., 2009). Such enterprises help in the creation of jobs, poverty reduction due to the labor-intensive jobs, and high rates of employment growth (Deijl et al., 2013). However, CSR practices among SMEs in developing countries are somewhat informal, and the adoption of formalized CSR management systems is challenging due to their limited capacity (Baumann-Pauly et al., 2013). Such circumstances are a hindrance to reaching the full potential of SMEs to achieve sustainable development.

SMEs in developing countries face multifaceted challenges in aligning the CSR principles with operational management and strategic goals. Such challenges include economic viability, lack of access to resources and expertise, lower engagement capabilities, regulatory gaps, limited awareness of CSR concepts, lower community pressures are barriers in the systematic adoption of CSR practices (Dixit & Priya, 2023; Dawar & Singh, 2023). Overcoming such challenges require concerted efforts from government, stakeholders, academia, and civil society. Further research is needed to explore the mechanisms of CSR, leadership, innovation, and competitiveness to strengthen the notion of aligning CSR initiatives with corporate mission and strategies. Due to the dire need for the elucidation of mechanisms through which SMEs effectively integrate CSR initiatives, leadership role, and competitiveness in a developing country, this research focuses on SMEs of India as a context. Small and medium-sized enterprises (SMEs) in India play a significant role in the economic and social development of the country. SMEs in India are contributing to the gross domestic product (GDP) by 30 percent and employment by 110 million jobs in different industries (Ministry of MSME, 2023). According to the MSME Act of 2006, Indian micro, small, and medium enterprises (MSMEs) are classified into manufacturing enterprises and service enterprises along with different maximum limits of investments in each category of

enterprises (MSME Act, 2006). This act has provided a supportive framework regarding infrastructure, delayed payments, and the provision of credit access. In this vein, some initiatives such as production-linked incentives (PLI) and the emergency credit line guarantee scheme (ECLGS) are aiming to integrate SMEs globally (India Briefing, 2024). Particularly in India, CSR also provides additional benefits in the environment of business process outsourcing (Dzever & Gupta, 2012). However, despite such initiatives, the focus on sustainability issues, CSR, and sustainability-oriented leadership is still at the nascent level due to inadequate related initiatives, institutional support, and leadership training (Das et al., 2020). Based on such untapped potential, Indian SMEs are a suitable and rich context for this research in an emerging market setting. Hence, the consideration of an emerging economy will fill the contextual gap (Jain & Jamali, 2016).

Date Collection and Analysis

The cross-sectional data for this study were collected from the small and medium-sized enterprises in India of the manufacturing sector. We used a survey method with a questionnaire technique to collect data, which consisted of two sections. The first section was based on questions related to basic information about respondents and organization details. The second section of the questionnaire was based on structured closed-ended questions with a five-point Likert scale. A pre-test was also carried out to check the level of accuracy and consistency by including academicians and practitioners. Consequently, some changes were made to improve the quality of the questionnaire, enhancing clarity and comprehension.

Based on the list of SME Directory of the SME Chamber of India, the sample consisted of 2431 SMEs. The sample is selected using a random sampling method to get unbiased data with greater generalizability. Initially, the SME owners and managers were contacted telephonically, through email, and a cover letter, and a structured questionnaire describing research objectives, anonymity, and data management plan. Resultantly, we received 453 filled questionnaires. Only 416 were correctly filled and considered for further analysis, with a 17.11 percent response rate. The final 416 respondents are adequate for representation by considering Yamane's formula (Yamane, 1967).

The operationalization, the instruments for constructs were adapted from the literature and adapted to make them compatible with the research context of this study (see Appendix A). The items of corporate social responsibility are adapted from Agyemang & Ansong (2017), Sarwar et al. (2023), and Sweeney (2009). Likewise, green leadership from Khan et al. (2023) and Al-Zawahreh et al. (2019), and green innovation from Sarwar et al. (2023), Aftab et al. (2022), Chen et al. (2006) were drawn. Similarly, the scale for the business competitiveness were adapted from Sarwar et al. (2023), Bagur-Femenias et al. (2015), and Camisón Zornoza (1999).

The proposed research model was analyzed by using structural equation modeling, due to its advantage of enabling ordinary least squares (OLS) for path analysis. In this vein, we employed partial least squares (PLS) by carrying out a series of OLS regression (Roldán & Sánchez-Franco, 2012). The major advantage is the simultaneous assessment and measurement of the constructs and the estimation of the structural model (Barroso et al.,

2010). For statistical analysis, this research employs the SmartPLS 4.0 software (Ringle et al., 2024).

Empirical Findings and Results

Sample Profiling

The profile of the respondents indicated that the sample was diverse across demographics. The sample showed that there were 63 percent males and 37 percent females. Our survey showed that significant age group brackets were 26-35 (26%) and 36-45 (24%). Marital status varied, with 46% married, 34% single, and others in various stages of relationships. Educational backgrounds ranged from bachelor's (36%) and master's degrees (31%) to PhDs (15%). Firms varied in size and age, 142 SMEs had 51-100 employees (34%), and 71 SMEs had 101-250 employees (17%). Additionally, most firms (45%) were established 11-20 years ago.

Table 1: Profile of Respondents (n = 416)

Description	Frequency	Percentages (%)
Gender of Respondents		
Male	263	63.2
Female	153	36.8
Age of Respondents (in years)		
18-25	93	22.4
26-35	108	25.9
36-45	99	23.8
46-55	67	16.1
56 and above	49	11.8
Marital Status		
Single	141	33.9
Married	192	46.2
In a relationship	21	5.1
Divorced	45	10.8
Widow/widower	17	4.1
Education of Respondents		
Intermediate and below	33	7.9
Bachelor	149	35.8
Masters	128	30.7
Ph.D.	61	14.7
Diploma	45	10.8
Firm's Size		
20-50 Employees	95	22.8
51-100 Employees	142	34.1
101-250 Employees	71	17.1
251-350 Employees	58	13.9
351-499 Employees	50	12.0
Firm's Age (in years)		
10 years or less	137	32.9
11-20 years	186	44.7
21 years and above	93	22.4

Common Method Bias (CMB) and Multicollinearity

Common method bias (CMB) describes distortions of results when independent and dependent variable data collection occurs through the same source or method, usually within one survey instrument (Jakobsen & Jensen, 2015). This methodological artifact creates biases in variable relationships by either increasing or decreasing them, which results in potentially deceptive conclusions (Podsakoff et al., 2003). Behavioral and organizational research studies face common method bias when data is collected from individual respondents for both independent and dependent variables using a cross-sectional design. In this study, we attempted to decrease the issue of common method bias by ensuring the anonymity of respondents. Statistical approaches were employed to test the occurrence of CMB, including Harman's single factor test (Harman, 1976), and variance inflation factor (VIF). Firstly, by executing Harman's single factor test, that combinely generated variance of all factors was 43.29%. This was below the threshold level of 50%. Secondly, CMB was tested by collinearity of VIF, recommended by Kock (2015). All the values of VIF scores of constructs were below 3.3, indicating the issue of CMB is not critical. However, some VIF values of constructs' items were below 5 (Hair et al., 2017), thus deleted to tackle the issue of multicollinearity.

Analysis of Measurement Model

The analysis of the measurement model is of significant importance and essential before proceeding to structural model analysis (Hair et al., 2017). The measurement model is concerned with the assessment of reliability and validity, as shown in Table 2. Reliability refers to the consistency of indicators measuring the related constructs, whilst validity indicates the accuracy of the related measures (Hair et al., 2019). The assessment of reliability requires a satisfactory level of factor loadings, Cronbach's alpha, and composite reliability. All the factor loadings were above 0.70 for individual reliability (Hair et al., 2014). In assessing the internal consistency, the values of Cronbach's alpha are greater than 0.7, whilst the other measure composite reliability (CR) values are also greater than 0.6, as recommended by Henseler et al., (2015). Concerning the convergent validity, all the values of average variance extracted (AVE) are above 0.5 (Hair et al., 2017). Further, the discriminant validity assesses each construct's distinctiveness by ensuring no overlap with other constructs (see Table 3). The Fornell-Larcker criterion ensures discriminant validity by larger square roots of AVEs greater than correlations between constructs (Fornell & Larcker, 1981), exposed by bold diagonal values in Table 3. Similarly, the Heterotrait-Monotrait (HTMT) ratio criterion is also fulfilled by having values below 0.85 (conservative threshold) and 0.90 (liberal threshold), as recommended by Hair et al. (2020).

Analysis of Structural Model and Hypothesis Testing

After satisfactorily establishing reliability and validity, the next step is analyzing the structural model (Hair et al., 2020). This requires assessing the model's explanatory power (R^2), predictive relevance (Stone-Geisser's Q^2), model fit, path coefficients, test-statistic values, and significance levels. Table 4 illustrates that 53 percent of the variance of business competitiveness and 62 percent of the variance of green innovation is explained by the model. The value of the R^2 adjusted, explaining the variance, is almost similar to an adequate percentage of variance explanation. R^2 value above 20 percent is considered adequate for the

robustness of the model in business studies research (Carranza et al., 2020). In the context of predictive relevance, Stone-Geisser's Q2 for business competitiveness and green innovation is 0.475 and 0.609, respectively. Thus, predictive relevance is established as Stone-Geisser's Q2 values are greater than zero.

The goodness of the model fit is presented in Table 5. The value of Standardized Root Mean Square Residual (SRMR) is 0.06, which fulfills the requirement of less than 0.08 (Henseler et al., 2014). Another common measure of model fit, the Normed Fit Index is 0.901 also fulfills the threshold requirement of above 0.90 for good fit (Bentler & Bonett, 1980). However, the model fit as a criterion of goodness is less preferred for PLS-SEM than Covariance-Based SEM (Henseler & Sarstedt, 2013). Therefore, most researchers prefer predictive relevance (Q²) significance in PLS-SEM.

Table 2: Assessment of the Measurement Model

Constructs	Items	Loadings	Mean	S.D. (σ)	Cronbach's Alpha	Composite Reliability	AVE	VIF
BC	BC1	0.895	4.19	0.772	0.885	0.889	0.813	2.483
	BC2	0.933	4.305	0.809				3.31
	BC3	0.876	4.288	0.755				2.341
CSR	CSR1	0.808	4.108	0.993	0.956	0.959	0.767	2.878
	CSR11	0.878	4.26	0.809				4.238
	CSR12	0.885	4.2	0.944				3.931
	CSR3	0.901	4.339	0.768				4.388
	CSR5	0.886	4.212	0.873				4.84
	CSR6	0.881	4.257	0.843				4.004
	CSR7	0.86	4.226	0.833				3.651
	CSR8	0.903	4.236	0.813				4.471
GI	GI1	0.883	4.212	0.84	0.929	0.938	0.778	3.122
	GI4	0.906	4.322	0.813				3.538
	GI6	0.902	4.322	0.738				4.26
	GI7	0.851	4.252	0.705				2.41
	GI8	0.866	4.245	0.807				3.438
GL	GL1	0.842	4.216	0.878	0.963	0.964	0.677	4.126
	GL10	0.819	4.202	0.895				3.737
	GL11	0.813	4.144	0.862				3.084
	GL13	0.875	4.183	0.874				4.508
	GL14	0.802	4.219	0.786				2.918
	GL15	0.805	4.171	0.905				3.315
	GL2	0.842	4.212	0.884				3.5
	GL3	0.773	4.3	0.796				2.797
	GL4	0.848	4.079	0.949				4.388

GL5	0.856	4.226	0.847	4.65
GL6	0.815	4.185	0.864	3.971
GL7	0.826	4.168	0.925	3.609
GL8	0.804	4.188	0.911	3.819
GL9	0.793	4.173	0.828	3.458

Note: Some items were deleted due to multicollinearity. AVE: Average Variance Extracted; VIF: Variance Inflation Factor

Table 3: Discriminant Validity (Fornell-Larcker and HTMT criterion)

	BC	CSR	GI	GL
BC	0.902	<i>0.703</i>	<i>0.72</i>	<i>0.716</i>
CSR	0.65	0.876	<i>0.805</i>	<i>0.814</i>
GI	0.668	0.77	0.882	<i>0.719</i>
GL	0.664	0.784	0.697	0.823

Note: Square roots of AVEs in diagonal (bold values); Italic are HTMT values

Table 4: Assessment of Explanatory Power and Predictive Relevance

	R-square	R-square Adjusted	Stone-Geisser's Q²
BC	0.525	0.521	0.475
GI	0.620	0.618	0.609

Table 5: Goodness of Model Fit

Fit Statistics	SRMR	NFI	Chi-Square
SEM Model	0.062	0.901	7764.10

To estimate the path coefficients and test the hypotheses, we performed a complete bootstrap with 5000 subsamples. Table 6 represents the full results with the values of effect size (f^2) for all the hypotheses. Figure 2 also shows the R^2 and path coefficients (β). Significant direct effects are observed of CSR ($\beta = 0.150$, $t = 2.501$, $p < 0.05$), GL ($\beta = 0.308$, $t = 5.108$, $p < 0.01$), and GI ($\beta = 0.334$, $t = 3.839$, $p < 0.01$) on BC. Hence, Hypothesis H1, H3, and H5 are supported. Similarly, the direct effects of CSR ($\beta = 0.555$, $t = 10.228$, $p < 0.01$), and GL ($\beta = 0.272$, $t = 3.889$, $p < 0.01$) on GI are also significant, thus, Hypotheses H2 and H4 are also supported. In addition, Hypotheses H6 and H7 exploring indirect effects are also supported. However, the consideration of effect size (f^2) is worthwhile to know the substantive contribution of exogenous constructs. According to the guidelines of Cohen (1998), most relationships (H1, H3, H4, H5, H6, and H7) have small effects. However, Hypothesis H2 has a medium effect on BC.

The mediation investigation is also performed to explore the mediating role of GI. Mediation analysis includes the exploration of direct effects, indirect effects, and total effects, based on

certain criteria, to deduce the result of complete or partial mediation (Nitzl et al., 2016). Table 7 illustrates the results of the mediation analysis. Results of the *Mediation Model 1* revealed that the CSR significantly impacts the BC, directly ($\beta = 0.150$, $t = 2.501$, $p < 0.05$) and indirectly ($\beta = 0.196$, $t = 3.635$, $p < 0.01$), as well as total effect of CSR ($\beta = 0.337$, $t = 5.624$, $p < 0.01$) on BC is also significant. This suggests that GI is playing a partial mediation role in the relationship between CSR and BC. Likewise, the results of the *Mediation Model 2* also suggested that GL significantly impacts the BC, directly ($\beta = 0.308$, $t = 5.108$, $p < 0.01$) and indirectly ($\beta = 0.081$, $t = 2.877$, $p < 0.01$), as well as total effect of GL ($\beta = 0.399$, $t = 6.199$, $p < 0.01$) on BC is also significant. This shows a partial mediation role of GI in the relationship between GL and BC.

The mediation effect size plays a role in the exploration of the mediation path based on the indirect (direct) and total effect (Alwin & Hauser, 1975). Thus, we calculated the Variance Accounted For (VAF) for both the Mediation Models, which are 58.16% and 20.30%, respectively. The percentage of $VAF < 20\%$ indicates negligible mediation, $20\% \leq VAF \leq 80\%$ indicates partial mediation, and $VAF > 80\%$, with no significant direct effect (Haier et al., 2017; Nitzl et al., 2016). Thus, partial mediation of established for both mediation models.

Table 6: Path Coefficients and Hypothesis Testing

Hypothesis	Direct Effects	Path Coefficient	t-value	p-value	f ²	Remarks
H1	CSR → BC	0.150**	2.501	0.01	0.021	Supported
H2	CSR → GI	0.555***	10.228	0.00	0.335	Supported
H3	GL → BC	0.308***	5.108	0.00	0.078	Supported
H4	GL → GI	0.272***	3.889	0.009	0.059	Supported
H5	GI → BC	0.334***	3.839	0.00	0.094	Supported
Indirect Effects						
H6	CSR → GI → BC	0.196***	3.635	0.00	0.0655	Supported
H7	GL → GI → BC	0.081***	2.877	0.004	0.0267	Supported

Note: *p < 0.10; **p < 0.05; ***p < 0.01.

Table 7: Mediation Test: Assessment on VAF criteria

Effect Type	Effect Path	Coefficient	t-value	VAF	Remarks
<i>Mediation Model 1</i>					
Direct	CSR → BC	0.150**	2.501	–	Partial Mediation
Indirect	CSR → GI → BC	0.196***	3.635	58.16%	
Total	CSR → BC	0.337***	5.624	–	
<i>Mediation Model 2</i>					
Direct	GL → BC	0.308***	5.108	–	Partial Mediation
Indirect	GL → GI → BC	0.081***	2.877	20.30%	
Total	GL → BC	0.399***	6.199	–	

Note: *p < 0.10; **p < 0.05; ***p < 0.01; VAR stands for Variance Accounted For.

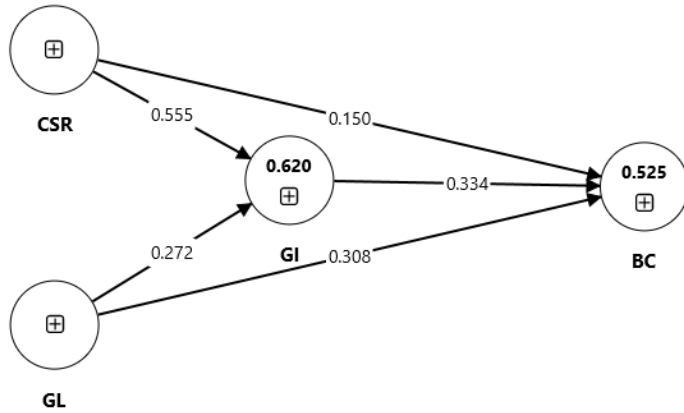


Figure 2: Estimated structural model showing R^2 and path coefficients (β)

Discussion and Conclusions

Business practices have evolved with a greater interest in ethical and sustainable practices due to the regularity requirements, enhanced environmental awareness, pressure from stakeholders, and society. In light of such a scenario, the involvement of CSR and green business practices gained significant importance. Literature extensively explored the concept of CSR, green practices, and related similar initiatives to investigate association and impacts (Dixit & Priya, 2023; Dawar & Singh, 2023; Sarwar et al., 2023; Freeman et al., 2021; Sheehy, 2015). However, literature still lacks in exploring the CSR associations through certain factors, relationships through mediation, the role of leadership towards green practices, such as green leadership, green innovation, and resulting influence on the business competitiveness of enterprises. This context of small and medium-sized enterprises (SMEs) was also underexplored despite the spunky contribution of SMEs in the economic development of emerging economies.

The present research attempted to explore the relatively overlooked scenario of CSR through certain factors, its associations, and mediation. This study examined the role of CSR, green leadership, and green innovation towards business competitiveness through the mediation analysis approach. The study considered the context of Indian Small and Medium Enterprises (SMEs) within the theoretical lens of Resource-Based View (RBV) and Stakeholder Theory. The empirical investigation was carried out by employing partial least squares-structural equation modelling (PLS-SEM) as a methodological tool of statistical analysis to examine the proposed hypotheses. The results of this study provide important insights into certain policy imperatives.

Firstly, the results confirm that CSR practices significantly impact business competitiveness. This evidence provides support for previous research with the assertion of CSR as a strategic resource for enhancing reputation (Galbreath, 2009; Porter & Kramer, 2006). In alignment with the theory of RBV, the involvement of enterprises in CSR activities helps to enhance firm capabilities and relationships with stakeholders that are valuable and hard to imitate

(Barney, 1991). Importantly, formal institutional support is limited in the context of Indian SMEs, and CSR activities enhance the legitimacy of enterprises, helping to reduce risk and build up stronger trust of customers and community (Jamali et al, 2009).

Secondly, the partial mediation effect through green innovation is also an important finding, which underscores the indirect contribution of CSR towards business competitiveness. These findings extend the previously suggested work that CSR activities invigorate innovative capabilities of firms through environmentally responsive technologies and processes (Dangelico & Pujari, 2010; Bos-Brouwers, 2010). Importantly, CSR initiatives also foster green innovation directly and significantly. Thus, such evidence strengthens the notion that CSR initiatives impact external perceptions from stakeholders and the community and foster internal innovations with enhanced performance outcomes. Further, green innovation also directly impacts business competitiveness, which is consistent with prior evidence (Kemp & Pearson, 2007).

Thirdly, visionary green leadership directly plays a role in fostering green innovation, which enhances business competitiveness directly and indirectly. Such findings support the evidence from previous research that environmentally conscious and green leadership promotes the culture of innovation with their strategic and sustainable decision-making (Robertson & Barling, 2013; Egri & Herman, 2000). The evidence of the partial mediation effect underscores the importance of prevailing relationships. The mediation role of green innovation between green leadership and business competitiveness further strengthens the dynamic role of leadership in transforming their green vision into innovation, which helps to achieve a strong market position with a competitive edge (Donate & de Pablo, 2015).

In totality, the evidence of this study provides a comprehensive and compact view of CSR initiatives, based on external factors and pressures, and internally visionary green leadership interacts in enhancing green innovation and driving business competitiveness, directly and indirectly. Such strategic imperatives are particularly important and relevant for the Indian SMEs, where enterprises are facing resource constraints, a requirement of regulatory measures, increasing environmental awareness among stakeholders and community are expecting the business enterprises to adopt sustainable and green practices (Singh et al., 2021; Narwal, 2007). Thus, this study concludes with affirmation that CSR and green leadership play a strategic role in enhancing business competitiveness, with supportive mediation through green innovation. Green innovation provides a key channel to catalyse business performance and competitiveness. Thus, the synergistic relationship prevails between external signals for CSR initiatives and internal leadership capabilities towards business competitiveness.

Theoretical Contributions

Theoretically, this study bridges the literature gap by proposing a mediated framework and empirically investigating CSR initiatives, GL, and GI towards enhanced business competitiveness. In this vein, this study extends the Stakeholder Theory by providing evidence that addressing stakeholders and societal expectations can help to achieve competitiveness, especially through the mediation of innovation. Concurrently, this study aligns with the theory of RBV, asserting that green innovation of enterprises is an intangible

asset resulting from CSR initiatives and visionary green leadership. Such resources, developed strategically, are critical for the competitive edge and long-term competitiveness (Teece, 2007; Hart, 1995).

Indispensably, the mediation role highlights that neither CSR nor GL ensures competitiveness; however, their ability to foster GI serves as a crucial and pertinent bridge. In addition, the study also fills the lacuna of a contextual gap of sustainability research by considering the context of Indian SMEs, due to the heavily skewed literature towards large enterprises and developed economies (Jain & Jamali, 2016).

Practical Contributions

This study offers actionable insights concerning to managers, SME owners, and policymakers. Firstly, this study provides a shred of strong evidence that the engagement of enterprises in CSR initiatives is not only ethically essential but also strategically important due to the beneficial impacts, particularly combined through innovation.

Secondly, business enterprises should develop their green and environmentally conscious leadership, which will foster a sustainability culture within the organization for sustainability-driven innovation. In this vein, leadership training and education of green practices can develop a proactive, sustainable mindset in leadership.

Lastly, policymakers and institutions supporting SMEs should design incentive schemes and platforms for sharing sustainable, environmental, and green knowledge to accelerate the adoption of green innovation. Such efforts are particularly important for emerging economies, where regulations are evolving with strict requirements and SMEs face a lack of resources.

Limitations, and Future Research Directions

This study has significant contributions towards understanding the role of CSR, GL, and BC through GI in the context of Indian SMEs. However, several limitations are acknowledged, which provide avenues for future research.

First, this study follows a cross-sectional design, which has its limitations with restricted ability in making causal inferences. Therefore, future research should consider a longitudinal design in observing the impact of time to evolve these relationships and to assess the sustainability-derived business competitiveness (Podsakoff et al., 2003).

Second, this study is based on the Indian SMEs, which somewhat limits the generalizability to other geographical regions and sectors. Due to the unique socio-economic conditions and regulatory frameworks, it is likely that SMEs behave differently in other emerging economies or in developed markets. Therefore, future research is recommended by considering cross-country comparisons and larger enterprises to investigate the findings for different national contexts and varying firm sizes (Jamali & Karam, 2018).

Third, the analysis of this study encompasses direct impacts and mediation analysis, however, all potential moderating variables are overlooked. Certain factors, such as firm age, type of industry, and the role of digitalization, could influence the relationships. Thus, future studies could investigate the model by considering such potential moderators (Baron & Kenny, 1986).

Fourth, the data used in this research is self-reported and from single informants, which is common in psychometric research studies. Such a scenario can be a cause of potential common method bias (CMB). Therefore, all possible remedies were adopted, including respondents' anonymity, countering the orders of the questions, and statistical tests such as Harman's single factor and collinearity VIFs. However, it is recommended that further research should be carried out based on objective performance to get more robust findings (Kock & Lynn, 2012).

Lastly, this study only employed quantitative research methods by considering the measurement of factors on the perceptual scale, which can hinder to capture of the complexity of behaviours. In the future, further research could employ a mixed-methods approach by integrating case studies and qualitative interviews to get deeper insights (Creswell & Plano Clark, 2017).

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