

THE MEDIATING ROLE OF INNOVATION CAPABILITY ON THE RELATIONSHIP BETWEEN CORPORATE SUSTAINABILITY AND INNOVATION PERFORMANCE IN INDIA: A STRUCTURAL EQUATION MODELLING APPROACH

¹Dr. Dharmendra H, ²Dr. Sandhya V, ³Dr. Gururaj B Urs, ⁴Dr. Kiran Kumar Thoti

¹Assistant Professor, CHRIST (Deemed to be University), Bangalore, ORCID: 0009-0008-0766-8050, Email: dharmendra.h@christuniversity.in

²Assistant Professor, CHRIST (Deemed to be University), Bangalore, Karnataka, India, ORCID: 0009-0009-1222-4363, Email: sandhya.v@christuniversity.in

³Director & Professor, Nitte School of Management (NsoM), Bangalore, Karnataka, ORCID: 0000-0002-2629-0953, Email: gururaj@nsom.ac.in

⁴Professor & Dean, Department of Commerce & Management Studies, Vidya Vikas Education Trust, Mysore, Karnataka, India, ORCID: 0000-0002-6678-9425, Email: kirankumar3561@gmail.com

ABSTRACT

Sustainability is a key strategy that today's companies must implement in order to ensure their long-term competitiveness and enhance their innovation results. The present study explores the connection among corporate sustainability, innovation performance and the role of innovation capability as a mediating factor in Indian organizational setting. Based on the RBV and DC theory, the study examines sustainability-oriented practices and their impact on improved innovation performance. The quantitative cross sectional research design was used and a structured questionnaire was used to collect data from 391 employees and managers from different organizations in India. Structural Equation Modelling (SEM) was applied in analysing the proposed relationships. The results suggest that the positive effect of corporate sustainability on both innovation capability and innovation performance. The results also confirm that the innovation capability has a significant positive impact on innovation performance and it partially mediates the relationship between corporate sustainability and innovation performance. The results indicate that combining capabilities with sustainability activities can enhance innovation performance. The study adds to the existing body of literature on sustainability and innovation, offering empirical evidence in the Indian context. The results provide useful guidance to managers and policy makers who aim to use the corporate sustainability as a strategic asset to generate innovation and increase the competitiveness of the organization in the long-term.

Keywords: Corporate Sustainability, Innovation Performance, Innovation Capability, Structural Equation Modelling (SEM), Emerging Markets (India)

1. INTRODUCTION.

Sustainability has become a corporate priority for the organizations aiming to achieve sustainable economic growth and to solve environmental and social issues. In recent years, sustainability has come to be seen by businesses as an important factor in organizational competitiveness, in value creation for stakeholders, and in innovation (Elkington, 1997; Dyllick & Muff, 2016). By incorporating environmental, social and economic factors into business operations, companies can create sustainable practices which increase their resilience and ensure long-term growth (Bansal & DesJardine, 2014).

However, innovation is a key factor in enabling organisations to adapt to the shifting demands of the market, the rapid advances of technology and the changing expectations of stakeholders. Companies that integrate sustainability concepts into their strategic and operational processes tend to have superior capabilities to come up with new products, services and processes (Porter & van der Linde, 1995). Since then, there has been a growing interest in the research community and practitioners to learn how corporate sustainability relates to innovation performance and sustainable competitive advantage (Adams et al., 2016).

According to the already published works, the use of sustainable practices makes organizations more efficient in using their resources, more efficient in their interaction with stakeholders, and more willing to develop a culture of constant learning and creativity (Hart, 1995; Nidumolu et al., 2009). These factors foster an innovative environment and provide companies with better opportunities to recognize and capitalize on new opportunities. However, the evidence-based knowledge about the mechanism(s) by which corporate sustainability is associated with innovation performance is still inconsistent, especially in emerging economies (Aboelmaged & Hashem, 2019). Although a few studies have mentioned that sustainability efforts are correlated with organizational outcomes, there has been little focus on the part played by organizational abilities in turning sustainability initiatives into tangible innovation outcomes. The ability of innovation is one of the most important organizational resources for the acquisition, integration and application of knowledge in the creation of new products, processes and business models (Lawson & Samson, 2001). Based on the Resource Based View (RBV) (Barney, 1991) and Dynamic Capabilities Theory (DCT) (Teece et al., 1997), innovation capability can be regarded as a strategic capability that is enabled to turn sustainability-oriented investments into better innovation results. Sustainability measures are better used by firms with high innovation capacity, and companies with high innovation capacity are more likely to achieve high innovation performance and to be competitive in the future (Saunila, 2020).

These relationships are examined in the Indian context in a more relevant manner. India is the fastest growing economy in the world, and thus the dual challenge is to maintain economic growth and to take care of the pressing environmental and social issues. Indian companies have responded to the sustainable development and awareness building initiatives by the Government and the rising regulatory expectations to incorporate sustainable practices in different sectors (KPMG, 2023). The role of these sustainability measures in delivering innovation performance via developing innovation capabilities, however, has not been sufficiently explored. Although sustainable development and innovation research has been proceeding steadily, there is a lack of understanding regarding the mediating role of innovation capability between corporate sustainable development and innovation performance, particularly from an Indian business context. This gap is crucial, both theoretically and practically, because it can help insight into the ways in which organizations can strategically use sustainability initiatives to improve the results of their innovation efforts. Therefore, this study explores the relationship of corporate sustainability and innovation performance and its mediating role of innovation capability between Indian companies with the help of the Structural Equation Modelling (SEM). The study's findings are relevant to the sustainable development and innovation literature, and offer practical implications for managers and policy makers in India who want to drive sustainable and innovativeness development.

2. LITERATURE REVIEW

Improving ESG scores and financial performance is more significantly impacted by ordering inferences by R&D. The study's results can be beneficial for the company to enhance their ESG matter disclosure, enhance the quality of their reporting, satisfy the ESG standards, and enhance the financial performance. Additionally, these results benefit investors, managers and policymakers mostly (Narsa Goud, 2025) Manufacturing industries' innovation and sustainability performance are greatly improved by ESG performance, suggesting that a company's innovation and sustainability performance increases with its ESG performance. ESG initiatives and sustainability performance are

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

completely mediated by the firm's innovation performance (Shukang Zhou et al., 2023). Dynamic sustainability capability has both direct and indirect facilitating effects on social and environmental performance through managerial capacity. Relational capability has little effect on environmental performance, but it does partially moderate the connection between dynamic sustainability capabilities and social performance. Moreover, the influence of factors in the environment of the firms will affect the above interactions (Bhadra et al., 2024). Studies the relationship between variables from an organizational structure, organization strategy, R&D talent, R&D technology, environmental uncertainty, environmental stakeholders, corporate innovation capability, corporate sustainability and strategic corporate social responsibility point of view. Strategic corporate social responsibility is a corporate innovation service that has a significant impact on the corporate sustainability performance. Additionally, corporate innovation services in high-tech sectors are not much impacted by organizational structure or R&D talent (Wen-Hsiang Lai et al., 2015). This study aims to investigate how corporate sustainability affects firm performance by looking at the indirect effects of a company's green innovation capabilities and sustainability-oriented supplier partnerships, results show that the impact of social sustainability practices on a company's performance is indirectly influenced by a sustainability-oriented supplier partnership. Partnerships with suppliers that focus on sustainability do not benefit environmental, economic and business performance in a positive way. With the exception of environmental sustainability and business performance, green innovation capabilities have an indirect impact on social and economic sustainability (Michelle Frempong et al., 2021). The Government has an effect on businesses both in terms of their growth and technology. Financial resources have a significant effect on the capacity for collaboration. Furthermore, it has become clear that capacity building has a huge impact on innovation that is focused on sustainability. By offering insight into the importance of different contingencies and resource integration for the implementation of sustainable practices, this study also makes a contribution to the contingent resource-based theory (Sonal Khurana et al., 2022). Environmental, Social and Governance performance is the strongest factor to influence Sustainable business practices while green innovation practices and ITC also play significant role. The report emphasizes the strategic value of embedding robust ESG principles, fostering innovation via sustainable operations and practices, and leveraging the IT capabilities for long-term performance and operational effectiveness. It offers valuable insights for business leaders and policymakers aiming for enhanced sustainability outcomes (Aisha Begum and swamy, 2026). The concept of strategic agility is related to the concepts of knowledge management, open innovation, the use of artificial intelligence, and sustainable innovation performance, both directly and indirectly. The framework can also be used by managers to formulate policies and strategies of their organisation for enhancing its sustainable innovation performance (Rema verma et al., 2026). The results reveal the linkage between sustainability innovation and innovation performance as well as mediation of knowledge application and sharing. The findings are relevant to the use of sustainable innovation in industrial companies and its impact on improving innovation results through the application and sharing of knowledge (Sebastian-Ion Ceptureanu et al., 2025).

3. BACKGROUND OF THE STUDY:

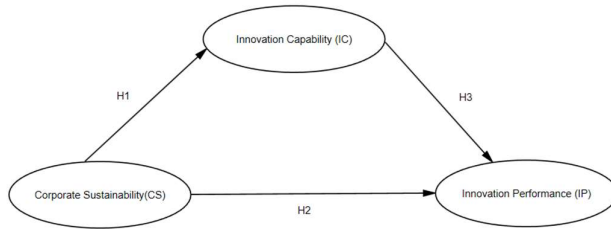
In today's environment a more comprehensive framework is becoming the norm, where the other key metrics are the company's ESG metrics, Innovation capability and the company's sustainability. They are so vital to a company's identity, operations, and long-term strategy of the business. This holistic approach enables companies to communicate to stakeholders, such as investors, clients, and regulators, their dedication to sustainability and ethical business practices. Sustainability focuses on environmental stewardship, resource conservation, and ecological resilience are the main goal of sustainability. There are some more general CSR programs that are geared toward social and ethical issues. Sustainability and ESG are complementary, but have a wider perspective in business. To deliver long term value, while not using up the economic, social and environmental resources that future generations will rely

on. Sustainable business methods are not just about reducing harm but actively promote to the well-being of the planet and its inhabitants. It is now easier to measure and monitor a company's impact on ESG issues because of developments in data analytics and technology. There are some companies that are using technology to boost productivity, minimize waste, and create sustainable solutions. This is one of the innovations that is helping to move businesses toward sustainability. Financial development can still occur in technology firms with them leading in environmental sustainability. Innovation Capability is the ability of an organization to acquire, combine, convert and apply knowledge to create innovative products. Innovation capability includes organizational learning, R&D endeavours, staff inventiveness, and knowledge management are all included in innovation capability. Incorporating sustainability, innovation capability and Environmental, Social, and Governance (ESG) principles into business strategy is a fundamental shift in the idea of what makes a real business succeed. Based on the study of the interactive effect of dimensions of individual ESG initiatives, it has been found that the effect of the dimension of environmental initiatives on innovative performance and the dimension of social initiatives on innovative performance is mediated by the dimension of corporate governance. Study shows that institutional development affects the success of the corporate governance initiatives (Zhang et al., 2020). This paper will emphasize Individual sustainability competencies and their contribution to building their innovation capacity. This research identifies competencies that enhance innovation by developing the organizational learning and the stakeholder capabilities. (Asha and Somsekhar, 2022). Sustainable innovation influences corporate social responsibility (CSR) and encourages the expansion and sharing of knowledge both inside and between organizations. So, there is a possibility to lower some market inefficiencies by applying a sustainable innovation approach. Knowledge management provides the knowledge and the ability to respond to it and provides the pathway to creative performance. These behaviours and information diffusion are therefore positively and significantly associated with innovation performance of the businesses (Julio et al., 2020). The empirical results confirm that green dynamic capability and sustainability studies are mediators between financial performance and environmental regulation, respectively. In addition, results demonstrate that environmental legislation can positively influence the financial performance via two different mediation pathways: environmental legislation and green dynamic capability, environmental legislation and sustainability exploration innovation, and environmental legislation and sustainability exploitation innovation. (Xing et al., 2020)

4. RESEARCH FRAMEWORK

The proposed research framework examines the role of innovation capability as a mediator between the relationship between corporate sustainability and innovation performance of Indian companies. Corporate sustainability is defined as a three-part construct of environmental, social and economic dimensions that form the key balance between profitability and social responsibility and environmental stewardship (Elkington, 1997; Dyllick & Muff, 2016). The incorporation of sustainability into business strategy has emerged as a key factor of organizational success and long-term competitiveness as companies are being faced with stakeholder pressures, regulatory expectations and sustainability challenges. The framework is based on Dynamic Capabilities Theory and Resource Based View (RBV). The ability to create resources and capabilities that are valuable, not easily accessible, non-substitutable and inimitable is the basis upon which the Resource Based View of the firm rests, which gives organizations sustainable competitive advantage (Barney, 1991). Sustainability-focused practices help to build strategic resources by improving organizational knowledge, stakeholder relationships, operational efficiencies and learning. (Hart, 1995). These resources are used to create innovation and value over time. On top of RBV, Dynamic Capabilities Theory states that firms need to continuously integrate, develop, and reconfigure their internal and external resources to be effective in adjusting to new market and environmental conditions (Teece et al., 1997; Teece, 2007). Organizations that incorporate sustainability into their strategic and operational processes have a better chance of building innovation capabilities which enable the organization to identify, absorb and apply new knowledge. These capabilities can help companies integrate sustainability into innovative products, services and processes, thereby improving organizational performance.

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH



Research Framework: Corporate Sustainability (CS), Innovation Capability (IC), Innovation Performance (IP)

In this context, the mechanism between corporate sustainability and innovation performance is the innovation capability. The definition of innovation capability is that it measures an organization's ability to develop and implement innovations successfully through the generation, acquisition, assimilation and exploitation of knowledge (Lawson & Samson, 2001). There is a positive correlation between innovation capabilities and the use of sustainability-driven resources and opportunities for better innovation results (Saunila, 2020). Innovation performance is the dependent construct and indicates the achievement of market related outcomes, operational process improvements and new product introductions in innovation activities. Previous research has indicated that sustainable companies can deliver more innovative solutions that enhance competitiveness, agility and business performance in the long run (Porter & van der Linde, 1995; Adams et al., 2016). Therefore, the model suggests that there is a direct relationship between CS and innovation performance, and a mediated one between CS and innovation capability. The Indian context is of special interest as a context to explore these relationships as companies with increasing focus on sustainability initiatives are also aiming for innovation and growth and become globally competitive. Structural Equation Modelling (SEM) is used to test the proposed direct and indirect relationships between the latent constructs in the empirical analysis, thus giving a robust test of the mediation role of innovation capability in the relationship between corporate sustainability and innovation performance.

5. RESEARCH OBJECTIVES

This research is based on the Resource Based View (Barney, 1991) and Dynamic Capabilities Theory (Teece, 2007) and aims to explore how corporate sustainability is related to innovation capability and innovation performance in the context of Indian companies. While previous research has demonstrated that sustainable oriented practices help increase the competitiveness of organizations and boost innovation outcomes (Adams et al. 2016; Hart, 1995), empirical studies specifically exploring the linkages between corporate sustainability and better innovation performance in emerging economies like India remain scarce. Hence, the aim of the present study is to explore whether the innovation capability is a mediator between corporate sustainability and innovation performance. Specifically, the study investigated the influence of corporate sustainability on the innovation capability of a company, the direct influence of corporate sustainability on the innovation performance of a company, the influence of innovation capability on the innovation performance of a company, and the mediating effect of innovation capability between corporate sustainability and innovation performance.

6. METHODOLOGY

In order to investigate the mediating role of innovation capability between the corporate sustainability and innovation performance variables in the Indian context, the study employed a quantitative research design with a cross-sectional research approach. The primary data were collected using a structured questionnaire from employees and managers from organizations that are involved with sustainability

and innovation practices. After data screening, 391 valid questionnaires were retained for analysis, using purposive sampling, 438 questionnaires were distributed both online and offline. The questionnaire included items on a five-point Likert scale ranging from 1 being strongly disagree to 5 being strongly agree for corporate sustainability, innovation capability and innovation performance. For data analysis, SPSS as well as Smart PLS software was used. Screening for missing values, outliers and normality was done as a preliminary analysis. Confirmatory Factor Analysis was used to determine the reliability and validity of the measurement model by analysing the factor loadings, Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). Further, the proposed relationships between the constructs were tested using a Structural Equation Modelling (SEM). The ethical standards were upheld throughout the study; participants were asked to take part willingly, and they gave their informed consent and confidentiality was ensured with respondents' information. A structured questionnaire was used to assess the three latent constructs, Corporate Sustainability (CS), Innovation Capability (IC) and Innovation Performance (IP). The items used in the measurement were adapted from validated scales.

Corporate Sustainability (CS): The Corporate Sustainability (CS) questionnaires are prepared with reference to Robert G. Eccles, Ioannis Ioannou & George Serafeim (2014).

CS1: Our organization actively integrates environmental sustainability into its business practices.

CS2: The company is committed to reducing its environmental impact through sustainable initiatives.

CS3: Social responsibility is a key priority in our organization's decision-making.

CS4: The organization ensures ethical practices in its operations and stakeholder relationships.

CS5: Long-term sustainability goals are clearly defined and implemented in our organization.

Innovation Capability (IC): The Innovation Capability (IC) questionnaires are prepared with reference to Teece, D. J. (2007)

IC1: Our organization encourages employees to generate new ideas and innovative solutions.

IC2: The company has strong capabilities to adopt and implement new technologies.

IC3: There is a supportive environment for experimentation and risk-taking in the organization.

IC4: The organization effectively transforms creative ideas into practical innovations.

IC5: Continuous learning and knowledge sharing are promoted to enhance innovation.

Innovation Performance (IP): The Innovation Performance (IP) questionnaires are prepared with reference to Tidd, J., & Bessant, J. (2009).

IP4: Our company has achieved significant improvements in processes through innovation.

IP6: Innovation activities have enhanced the overall competitiveness of the organization.

IP7: The organization responds quickly to market changes through innovative solutions.

IP10: Innovation has contributed positively to the organization's financial performance.

6.1 Hypothesis Development:

H1: Corporate Social Responsibility has a significant impact on Innovation Capability.

H2: Corporate Social Responsibility has a strong impact on Innovation Performance.

H3: Innovation Capability is a strong contributor to Innovation Performance.

H4: Innovative Capability is the mediator between the Corporate Social Responsibility and Innovation Performance.

7. DATA ANALYSIS

Table 1
Demographic Profile of Respondents (N = 391)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	269	68.8
	Female	122	31.2
	Total	391	100
Designation	Managers	133	34
	Management Trainees	106	27

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

Age Group	HR Executives	94	24
	Technicians	58	15
	Total	391	100
	18–25 years	90	23
	26–30 years	145	37
	31–35 years	90	23
Educational Qualification	Above 36 years	66	17
	Total	391	100
	ITI/PUC	102	26
	Graduation	152	39
	Post Graduation	113	29
	Others	24	6
	Total	391	100

Source. Author's survey data (2026).

Demographic analysis of the respondents indicates that majority of the respondents were males and were employed. Of the 391 respondents, 269 respondents (68.8%) were male and 122 respondents (31.2%) were female. This suggests that there was a higher proportion of male employees in the study sample. In terms of designation, the maximum number of respondents were managers (133, 34%) followed by management trainees (106, 27%). HR executives were represented by 94 (24%) while the smallest group was technicians with 58 (15%). This distribution shows that the employees at various levels and in various professions in the organization were involved in the study. The age-wise classification shows that most of the respondents were within the age group (26-30) with 145 respondents (37%). 23% (90 respondents) of the respondents were in the age group 18-25 and 31-35 age group respectively. Of those who responded, 66 (17%) were over 36 years of age. This implies that this study primarily reflects the views of young and career professionals. In terms of education qualification, most of the respondents were graduate with 152 respondents (39%). Post-graduates (29%) responded the largest number of 113 followed by ITI/PUC qualified respondents (26%) with 102 participants. 24 respondents (6%) were in the "Others" group. The results show that most of the respondents had higher educational qualifications which may contribute to their awareness of corporate sustainability and innovation practices.

Table 2: Measurement model

Constructs	Outer loading	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Corporate Social Responsibility	-	0.825	0.827	0.877	0.589
CS1	0.754				
CS2	0.758				
CS3	0.807				
CS4	0.721				
CS5	0.793				
Innovation Capability	-	0.824	0.829	0.877	0.588
IC1	0.750				

IC2	0.769				
IC3	0.817				
IC4	0.713				
IC5	0.780				
Innovation Performance	-	0.823	0.825	0.883	0.654
IP10	0.821				
IP4	0.814				
IP6	0.808				
IP7	0.791				

Note: The primary survey data were analysed using SmartPLS 4 to calculate the outer loadings, Cronbach's alpha, composite reliability (qa and qc), and average variance extracted (AVE) values for all the variables.

The primary survey data were analyzed using SmartPLS 4 to calculate the outer loadings, Cronbach's alpha, composite reliability (qa and qc), and average variance extracted (AVE) values for all the variables.

Outer loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) were used to evaluate the measurement model. The results showed good reliability and convergent validity of all constructs. The internal consistency reliability of the construct Corporate Social Responsibility was good as the Cronbach's alpha was .825; the composite reliability (rho_a) was .827; and the composite reliability (rho_c) was .877, all higher than the .70 threshold. The AVE value was .589, higher than the acceptable .50, indicating acceptable convergent validity. Moreover, all the loadings of the indicators were greater than .721 and less than .807, suggesting that the indicators were adequate to represent the construct. Satisfactory reliability and validity were also obtained for Innovation Capability. The Cronbach's alpha value obtained was .824, the values of the composite reliability were .829 (rho_a) and .877 (rho_c) which were higher than recommended value of .70. Convergent validity was adequate with the AVE value of .588. Moreover, outer loadings varied from .713 to .817, indicating the significance of all indicators to the construct measurement. Strong reliability of the construct Innovation Performance was obtained with the following values for Cronbach's alpha, .823; rho_a: .825; and rho_c: .883. The AVE value is .654, which is a good level of convergent validity. The outer loadings of the indicators were between .791 and .821, which were higher than the recommended outer loading .70, indicating that the indicators reliably measured the construct. Cronbach's alpha and composite reliability for all constructs were $\geq .70$ and AVE for all constructs were $\geq .50$. In addition, all factor loadings were greater than .70, which is a good benchmark for the reliability of the indicators for their respective constructs. Thus, the measurement model was deemed to be statistically acceptable for subsequent structural model examination.

Table 3: Descriptive statistics

Variables	Mean	SD	Corporate Social Responsibility	Innovation Capability	Innovation Performance
Corporate Social Responsibility	3.005	1.091	-	-	-
Innovation Capability	3.011	1.080	0.420	-	-
Innovation Performance	3.022	1.146	0.477	0.462	-

Source: Author's computation based on primary survey data (N = 391).

Descriptive statistics and inter-correlations of the variables of the study are shown in table II. The mean scores of Corporate Social Responsibility (3.005, 1.091), Innovation Capability (3.011, 1.080) and Innovation Performance (3.022, 1.146) reflect moderate level of responses from the respondents. The

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

correlation analysis showed that there was positive correlation between the Corporate Social Responsibility with Innovation Capability ($r = .420$) and Innovation Performance ($r = .477$). Also, there was a positive correlation between Innovation Capability and Innovation Performance ($r = .462$). The results indicated that the more corporate sustainability practices, the more the innovation capability and the more the innovation performance.

Table 4: *Discriminant validity Fornell-Larcker criterion*

	Corporate Social Responsibility	Innovation Capability	Innovation Performance
Corporate Social Responsibility	0.767		
Innovation Capability	0.425	0.766	
Innovation Performance	0.480	0.463	0.808

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

The Fornell-Larcker criterion was used to assess discriminant validity among the constructs. The square root of the AVE for Corporate Social Responsibility (.767), Innovation Capability (.766), and Innovation Performance (.808) was greater than the correlations between the respective constructs. The results indicate that each construct is unique and sufficiently different than other constructs in the model, and hence, the results show acceptable discriminant validity.

Table 5: *Discriminant validity Heterotrait-monotrait (HTMT) matrix*

	Corporate Social Responsibility	Innovation Capability	Innovation Performance
Corporate Social Responsibility	-	-	-
Innovation Capability	0.510	-	-
Innovation Performance	0.579	0.561	-

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

The Heterotrait-Monotrait (HTMT) ratio was used to assess discriminant validity among the constructs. The values of the relationships between Corporate Social Responsibility and Innovation Capability (.510), Corporate Social Responsibility and Innovation Performance (.579), Innovation Capability and Innovation Performance (.561) fell short of the recommended value of .85. The result of this process suggests that the discriminant validity was achieved, which means that the different constructs are conceptually different from each other.

Table 6: *Coefficient of Determination (R^2) Results*

	R-square	R-square adjusted
Innovation Capability	0.180	0.178
Innovation Performance	0.312	0.309

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

R^2 values provide information about how well the structural model predicts. The R^2 for the Corporate Social Responsibility model of Innovation Capability was .180 and the Adjusted R^2 was .178, meaning that 18.0% of the variance in Innovation Capability is explained by the model. Likewise, the two factors of Corporate Social Responsibility and Innovation Capability accounted for 31.2% of the variance in Innovation Performance ($R^2 = .312$, Adjusted $R^2 = .309$).

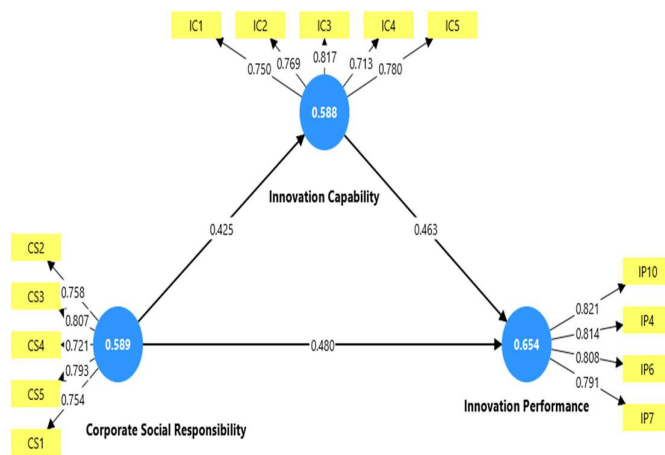


Table 7: Hypotheses testing results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Decision	Result
Corporate Social Responsibility -> Innovation Capability	0.425	0.428	0.042	10.17	0.000	Accepted	Supported
Corporate Social Responsibility -> Innovation Performance	0.346	0.348	0.045	7.779	0.000	Accepted	Supported
Innovation Capability -> Innovation Performance	0.316	0.317	0.043	7.275	0.000	Accepted	Supported

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

The findings show that Corporate Social Responsibility (CSR) positively and significantly affects Innovation Capability (at the level $t = 10.17$ and $p < .001$). Path coefficient indicates that with the rise in CSR practices, innovation capability of the firms also increases. There is good evidence for this relationship, given the high value of the t and the low value of the p . Hence, the H1 is accepted, and it supports that CSR is important in building up the organizational innovation capability. The results of the study show that the positive and significant effect of Corporate Social Responsibility on Innovation Performance is equal to 0.346 and the value of t is 7.779 with p value < 0.001 . This finding suggests that if an organization has an interest in CSR activities, its innovation performance would be better. The result of statistically significant path coefficient indicates that CSR has a direct impact on the innovation results. Hence, we see that H2 is accepted and supported. The results of the analysis reveal that the coefficient of Innovation Capability is 0.316 which is positive and significant on Innovation Performance at significance level less than 0.001 and t value 7.275. This discovery suggests that companies with higher innovation capabilities are more likely to achieve higher innovation performance. The t -statistic and p -value are significant, which indicates that Innovation Capability is an important predictor of Innovation Performance. So, H3 is accepted and supported.

Table 8: Hypothesis testing results of the mediating variable

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
--	---------------------	-----------------	----------------------------	--------------------------	----------	--------

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

Corporate Social Responsibility -> Innovation Capability -> Innovation Performance	0.134	0.136	0.023	5.952	0.000	Supported
--	-------	-------	-------	-------	-------	-----------

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

The mediation analysis showed that the relationship between Corporate Social Responsibility and Innovation Performance was mediated by Innovation Capability ($\beta = .134$, $t = 5.952$, $p < .001$). The results showed that the relationship of Corporate Social Responsibility on Innovation Performance is significant mediated by Innovation Capability and this supported the H4. The results showed that both direct and indirect path from CSR to Innovation Performance were significant, thus it can be said that the mediation was partial mediation. Based on these results, Innovation Capability can be inferred as important variable that mediate CSR to Innovation Performance.

Table 9: F^2 matrix

	Corporate Social Responsibility	Innovation Capability	Innovation Performance
Corporate Social Responsibility	-	0.220	0.143
Innovation Capability	-	-	0.119
Innovation Performance	-	-	-

Source: Author's computation using SmartPLS 4 based on primary survey data (N = 391).

The effect size analysis revealed that the effect of Corporate Social Responsibility on both Innovation Capability ($f^2 = .220$) and Innovation Performance ($f^2 = .143$) was medium. Innovation Capability also proved to have a small effect on Innovation Performance ($f^2 = .119$). According to Cohen (1988) criteria, these results indicate that Corporate Social Responsibility is a relatively good predictor of Innovation Capability, but not so good to Innovation Performance, and Innovation Capability is a weak but significant predictor of Innovation Performance.

8. RESULTS & FINDINGS

The results of the structural model have strong support for all the proposed hypotheses. The results showed that Corporate Social Responsibility (CSR) had a positive and significant effect on Innovation Capability ($\beta = .425$, $t = 10.17$, $p < .001$), which supported H1 and suggested that a higher CSR practice can lead to an increase in Innovation Capability. In the same way, CSR exerted a strong positive impact on Innovation Performance ($\beta = .346$, $t = 7.779$, $p < .001$), thereby confirming H2. This implies that socially responsible firms have better innovation performance. Innovation Capability was also determined to positively influence Innovation Performance ($\beta = .316$, $t = 7.275$, $p < .001$) that supports H3 and emphasizes the role of organizational capabilities in innovation success. In addition, the mediation analysis showed that CSR has a significant indirect effect on Innovation Performance via Innovation Capability ($\beta = .134$, $t = 5.952$, $p < .001$), in support of H4. The direct effect was significant and the indirect effect was significant as well, which means that CSR improves the innovation performance both directly and indirectly via the improvement of Innovation Capability, thus, Innovation Capability partially mediates the association between CSR and Innovation Performance. The analysis of effect size (f^2) also showed that CSR had a medium effect on Innovation Capability ($f^2 = .220$) and small-to-medium effect on Innovation Performance ($f^2 = .143$), and that Innovation Capability had a small but significant effect on Innovation Performance ($f^2 = .119$). In summary, these results

indicate that CSR can be treated as a strategic organizational resource to enhance innovation capability and innovation performance, highlighting the importance of CSR-oriented practices for innovation in companies.

9. CONCLUSION

Corporate Social Responsibility (CSR), Innovation Capability and Innovation Performance of Indian Organizations: A Structural Equation Modelling (SEM) approach. The results show that CSR has a clear positive impact on Innovation Capability and Innovation Performance, thus emphasizing the strategic value of CSR practices in the context of Innovation. The findings also support that Innovation Capability positively affects Innovation Performance, and is a significant partial mediator between CSR and Innovation Performance. The results indicate that, in addition to directly investing in CSR, organizations can also use CSR as a tool to enhance their innovation capacity. The effect size analysis also validates the practical implications of CSR as an important determinant of innovation outcomes. The study adds to the existing pool of literature on corporate sustainability and innovation and strengthens the notion that sustainability needs to be embedded in the core business strategy for fostering long-term competitiveness and innovation performance in the Indian context. The results from a managerial point of view highlight the importance of organizations to coordinate the CSR activities with capability building activities to obtain maximum benefit from innovations. The study findings overall demonstrate that, corporate sustainability can be considered a valuable strategic resource which directly and indirectly contributes to innovation performance via innovation capability development.

10. IMPLICATIONS AND NOVELTY OF THE STUDY

This study attempts to fill the gaps in the sustainability and innovation literatures with an empirical analysis of the significance of the mediating role of innovation capability in the relationship between corporate sustainability and innovation performance in the Indian context. Previous research has largely investigated the direct impact of sustainability on organizational performance, but this research offers novel empirical evidence that innovation capability is a key link between corporate sustainability and innovation performance. The results underline the strategic value of combining sustainability initiatives with capability building for pursuing better innovation results in a holistic approach, building on the concepts of the Resource Based View and Dynamic Capabilities Theory. In practical terms, the research underscores the importance of corporate sustainability investments for enhancing organizational responsibility and, more significantly, their innovation power, which in turn supports sustainable growth and long-term competitiveness of organizations.

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

REFERENCES:

1. Abdulmuhsin, A. A., Hussein, H. DH., Rehman, S. U., Bhat, M. A., & Dbesan, A. H. (2025). Driving interactive green innovation in traditional industries: the impact of AI and KM in the oil and gas sector. *International Journal of Energy Sector Management*.
2. Aboelmaged, M., & Hashem, G. (2019). Absorptive capacity and green innovation adoption in SMEs: The mediating effects of sustainable organisational capabilities. *Journal of cleaner production*, 220, 853-863. <https://doi.org/10.1016/j.jclepro.2019.02.150>
3. Acosta-Prado, J. C., López-Montoya, O. H., Sanchís-Pedregosa, C., & Vázquez-Martínez, U. J. (2020). Sustainable Orientation of Management Capability and Innovative Performance: The Mediating Effect of Knowledge Management. *Sustainability*, 12(4), 1366.
4. Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., & Overy, P. (2016). Sustainability-oriented innovation: A systematic review. *International Journal of Management Reviews*, 18(2), 180-205. <https://doi.org/10.1111/ijmr.12068>
5. Aisha Begum, M., & Swamy, T. N. V. R. L. (2026). Exploring Business Sustainability: The Role of ESG Performance, Green Innovation, and IT Capabilities. *Sustainable Development*.
6. Aisha Begum, M., and N. V. R. L. Swamy. 2026. "Exploring Business Sustainability: The Role of ESG Performance, Green Innovation, and IT Capabilities." *Sustainable Development* 1-14. <https://doi.org/10.1002/sd.71051>.
7. Ali, S., Degan, M., Omar, A. B., & Mohammad, A. J. (2024). Just go green. *Brazilian Journal of Operations & Production Management*, 21(2), 1815. <https://doi.org/10.14488/bjopm.1815.2024>
8. Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic organization*, 12(1), 70-78.
9. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
10. Belyamani, I., Mfarrej, M. F. B., Ahmad, S. Z., & Bakar, A. R. A. (2025). Pathways linking green digital transformation to sustainable development through knowledge sharing and dynamic capabilities. *Discover Sustainability*, 6(1). <https://doi.org/10.1007/s43621-025-02075-y>
11. Bhadra, K. V., Kamalanabhan, T. J., & Singh, S. K. (2024). Evolution of dynamic capabilities for business sustainability performance: evidence from the Indian manufacturing sector. *Business Strategy and the Environment*, 33(6), 5583-5605. <https://doi.org/10.1002/bse.3767>
12. Bhadra, K. V., Kamalanabhan, T. J., & Singh, S. K. (2024). Evolution of dynamic capabilities for business sustainability performance: evidence from the Indian manufacturing sector. *Business Strategy and the Environment*, 33(6), 5583-5605.
13. Bhat, A. A., Mir, A. A., Allie, A. H., Lone, M. A., Al-Adwan, A. S., Jamali, D., & Riyaz, I. (2023). Unlocking corporate social responsibility and environmental performance: Mediating role of green strategy, innovation, and leadership. *Innovation and Green Development*, 3(2), 100112. <https://doi.org/10.1016/j.igd.2023.100112>
14. Camacho, L., & Singh, S. (Eds.). (2020). *Business practices, growth and economic policy in emerging markets* (Vol. 1). World Scientific. DOI: [10.1142/11863](https://doi.org/10.1142/11863)
15. Ceptureanu, S. I., Ceptureanu, E. G., Georgescu, B., & Iancu, A. L. (2025). Sustainability, innovation and knowledge: a complex relationship based on an empirical study. *Soft Computing*, 29(6), 3047-3062.
16. Ceptureanu, SI., Ceptureanu, EG., Georgescu, B. *et al.* Sustainability, innovation and knowledge: a complex relationship based on an empirical study. *Soft Comput* **29**, 3047–3062 (2025). <https://doi.org/10.1007/s00500-025-10574-3>

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

17. Cui, J. (2025a). Human-AI Technology Integration and Green ESG Performance: Evidence from Chinese Retail Enterprises. arXiv (Cornell University). <http://arxiv.org/abs/2507.03057>
18. Duru, C. C., Fu, C., & Nimo, M. (2023). Influence of knowledge management enablers and processes on a sustainable manufacturing performance in Nigeria. *European Journal of Sustainable Development Research*, 7(3). <https://doi.org/10.29333/ejosdr/13375>
19. Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & environment*, 29(2), 156-174. <https://doi.org/10.1177/1086026615575176>
20. Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). *The impact of corporate sustainability on organizational processes and performance*. *Management Science*, 60(11), 2835–2857.
21. Elkington, J. (1997). The triple bottom line. *Environmental management: Readings and cases*, 2(1997), 49-66.
22. Ferreira, M. P., Serra, F. R., Costa, B. K., & Almeida, M. (2016). A bibliometric study of the resource-based view (RBV) in international business research using barney (1991) as a key marker. *Innovar*, 26(61), 131-144. DOI:[10.15446/innovar.v26n61.57173](https://doi.org/10.15446/innovar.v26n61.57173)
23. Frempong, M. F., Mu, Y., Adu-Yeboah, S. S., Hossin, M. A., & Adu-Gyamfi, M. (2021). Corporate sustainability and firm performance: The role of green innovation capabilities and sustainability-oriented supplier-buyer relationship. *Sustainability*, 13(18), 10414. <https://doi.org/10.3390/su131810414>
24. Frempong, M. F., Mu, Y., Adu-Yeboah, S. S., Hossin, M. A., & Adu-Gyamfi, M. (2021). Corporate sustainability and firm performance: The role of green innovation capabilities and sustainability-oriented supplier-buyer relationship. *Sustainability*, 13(18), 10414.
25. Gidage, M., & Bhide, S. (2025). ESG Performance and Green Innovation Nexus: Insights from Indian Manufacturing Titans. *Business Strategy and the Environment*, 34(7), 8686. <https://doi.org/10.1002/bse.70041>
26. Goud, N. N. Corporate Sustainability Performance vis-à-vis ESG Disclosure and R&D: Does It Matter to Influence Corporate Performance—Evidence from India. *Indian Journal of Corporate Governance*, <https://doi.org/10.1177/09746862251384720>
27. Goud, N. N. Corporate Sustainability Performance vis-à-vis ESG Disclosure and R&D: Does It Matter to Influence Corporate Performance—Evidence from India. *Indian Journal of Corporate Governance*, 09746862251384720.
28. Green Competitive Advantage and SMEs: Is Big Data the Missing Link? (2023). *Journal of Competitiveness*, 15(1). <https://doi.org/10.7441/joc.2023.01.05>
29. Hael, M., Belhaj, F. A., Hazaea, S. A., Eldaia, M., & Al-Dalaien, B. O. A. (2025). A bibliometric and content analysis of the role of corporate social responsibility in enhancing competitive advantage. *Discover Sustainability*, 6(1). <https://doi.org/10.1007/s43621-025-02019-6>
30. Hao, J., & Zhang, S. (2024). The Impact of Artificial Intelligence on ESG Performance of Manufacturing Firms: The Mediating Role of Ambidextrous Green Innovation. *Systems*, 12(11), 499. <https://doi.org/10.3390/systems12110499>
31. Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of management review*, 20(4), 986-1014. <https://doi.org/10.2307/258963>
32. Hermawan, S., Alabdullah, T. T. Y., Sriyono, S., Sudarso, S., & Utomo, P. (2024). Green perspective on intellectual capital, corporate social responsibility, and competitive advantage: The role of firm performance. *Environmental Economics*, 15(1), 97. [https://doi.org/10.21511/ee.15\(1\).2024.08](https://doi.org/10.21511/ee.15(1).2024.08)
33. Holopainen, M., Franzè, C., Saunila, M., & Ukko, J. (2026). Empowering Sustainability Through Technologies: The Impact of Companies' Digital Capabilities and Digital Ambition. *Sustainable Development*. <https://doi.org/10.1108/ijesm-01-2025-0031>
34. Huang, J., & Chen, Y. (2025). Human-artificial intelligence collaboration and green collaborative innovation: The roles of knowledge management and CEO green experience. *Journal of Cleaner Production*, 535, 147117. <https://doi.org/10.1016/j.jclepro.2025.147117>

35. Kamran, M. W., Zhu, Y., Gilal, F. G., Waseel, A. H., & Jiang, H. (2025). Leveraging Corporate Social Responsibility: The Mediating Role of Ambidextrous Green Innovation in Enhancing Green Performance. *Corporate Social Responsibility and Environmental Management*, 32(5), 6712. <https://doi.org/10.1002/csr.70056>
36. Khakwani, M. S., Zafar, A., Mahmood, G., & Khan, Q. (2024). Impact of Digital Transformation and Green Manufacturing Practices on Firm Performance with Mediating Role of Green Product Innovation: An Empirical Investigation with PLS-SEM Modeling. *Sustainable Business and Society in Emerging Economies*, 6(1). <https://doi.org/10.26710/sbsee.v6i1.2926>
37. Khurana, S., Luthra, S., Haleem, A., Kumar, A., & Mannan, B. (2022). Can sustainability be achieved through sustainable oriented innovation practices? Empirical evidence of micro, small and medium scale manufacturing enterprises. *Sustainable Development*, 30(6), 1591-1615. <https://doi.org/10.1002/sd.2330>
38. Khurana, S., Luthra, S., Haleem, A., Kumar, A., & Mannan, B. (2022). Can sustainability be achieved through sustainable oriented innovation practices? Empirical evidence of micro, small and medium scale manufacturing enterprises. *Sustainable Development*, 30(6), 1591-1615.
39. KPMG, S. (2023). KPMG. *Recuperado el*, 27.
40. Kumar, A., Yadav, U. S., Mandal, M., & Yadav, S. K. (2024). Impact of Corporate Innovation, Technological Innovation and ESG on Environmental Performance: Moderation Test of Entrepreneurial Orientation and Technological Innovation as Mediator Using Sobel Test. *International Journal of Sustainable Development and Planning*, 19(7), 2635. <https://doi.org/10.18280/ijstdp.190720>
41. Kumar, S., Kumar, V., Chaudhuri, R., Chatterjee, S., & Vrontis, D. (2025). AI capability and environmental sustainability performance: Moderating role of green knowledge management. *Technology in Society*, 81, 102870.
42. Lai, W. H., Lin, C. C., & Wang, T. C. (2015). Exploring the interoperability of innovation capability and corporate sustainability. *Journal of Business Research*, 68(4), 867-871. DOI: 10.1016/j.jbusres.2014.11.043.
43. Lai, W. H., Lin, C. C., & Wang, T. C. (2015). Exploring the interoperability of innovation capability and corporate sustainability. *Journal of Business Research*, 68(4), 867-871.
44. Lai, W.-H., Lin, C.-C., & Wang, T.-C. (2015). *Exploring the interoperability of innovation capability and corporate sustainability*. *Journal of Business Research*, 68(4), 867-871. The study highlights the interrelationship between innovation capability and corporate sustainability and provides theoretical support for linking these constructs.
45. Lawson, B., & Samson, D. (2001). Developing innovation capability in organisations: a dynamic capabilities approach. *International journal of innovation management*, 5(03), 377-400. <https://doi.org/10.1142/S1363919601000427>
46. Li, X., Zeng, W., & Xu, M. (2022). The Moderating Role of IT Capability on Green Innovation and Ambidexterity: Towards a Corporate Sustainable Development. *Sustainability*, 14(24), 16767. <https://doi.org/10.3390/su142416767>
47. Li, Y., Pertheban, T. R., Li, Q., & Guang-Wen, Z. (2025). *The Green Innovation Gateway: How Technological Capabilities and Environmental Strategies Drive Sustainability Performance in Manufacturing Firms*. SAGE Open. This research uses PLS-SEM to show the mediating role of innovation-related capabilities in achieving sustainability performance.
48. Liu, Y., Kumar, S., Liu, H., Li, S., & Zhou, Z. (2025). ESG performance, digital transformation, and green innovation. *Humanities and Social Sciences Communications*, 12(1). <https://doi.org/10.1057/s41599-025-06027-9>
49. Mansour, M., Zobi, M. A., & Alomair, M. (2025). Artificial Intelligence, ESG Governance, and Green Innovation Efficiency in Emerging Economies. *Economies*, 14(1), 11. <https://doi.org/10.3390/economies14010011>
50. Mukhtar, B., Shad, M. K., Woon, L. F., & Waqas, A. (2023). ESG Practices to Foster Green Innovation with Moderating Role of Innovation Orientation: A Conceptual Framework for the Manufacturing Organizations. *Research Square (Research Square)*. <https://doi.org/10.21203/rs.3.rs-3228870/v1>

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

51. Nair, A. K. S., & Bhattacharyya, S. S. (2022). *Sustainability competencies and its link to innovation capabilities*. *European Business Review*, 34(11). This India-focused study explains how sustainability-oriented competencies contribute to the development of organizational innovation capabilities.
52. Nair, A. K., & Bhattacharyya, S. S. (2022). Sustainability competencies and its link to innovation capabilities. *European Business Review*, 34(6), 819-836. DOI:[10.1108/EBR-08-2021-0172](https://doi.org/10.1108/EBR-08-2021-0172)
53. Nair, A. K., & Bhattacharyya, S. S. (2022). Sustainability competencies and its link to innovation capabilities. *European Business Review*, 34(6), 819-836.
54. Nawangsari, L. C., Siswanti, I., Arijanto, A., & Wahyu, M. K. W. P. (2024). From Knowledge to Action: Exploring Green Intellectual Capital's Role in Sustainable Organizational Performance for Millennials. *International Review of Management and Marketing*, 15(1), 82. <https://doi.org/10.32479/irmm.17546>
55. Nguyen-Quoc, A. (2026). Shaping sustainable business performance through green ambidextrous innovation, green intellectual capital, and green absorptive capacity. *Discover Sustainability*. <https://doi.org/10.1007/s43621-026-02787-9>
56. Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. *Harvard business review*, 87(9), 56-64. DOI:[10.1109/EMR.2013.6601104](https://doi.org/10.1109/EMR.2013.6601104)
57. Nsiah, T. K., Chovancova, M., Attor, C., & Asamoah, C. A. (2023). Moderating Environmental Leadership on Corporate Social Responsibility and Green Innovation of SMEs Performance. *Proceedings of the ... International Conference on Business Excellence*, 17(1), 1019. <https://doi.org/10.2478/picbe-2023-0093>
58. Nuryanto, U. W., Basrowi, B., Quraysin, I., & Pratiwi, I. (2024). Harmonizing eco-control and eco-friendly technologies with green investment: Pioneering business innovation for corporate sustainability in the Indonesian context. *Environmental Challenges*, 15, 100952. <https://doi.org/10.1016/j.envc.2024.100952>
59. Paluseri, A., Kaihatu, T. S., Sutrisno, T. F., & Bernardus, D. (2025). Identifying the role of aggressive low carbon innovation on a firm's environmental, social, and governance performance. *Eastern-European Journal of Enterprise Technologies*, 4, 38. <https://doi.org/10.15587/1729-4061.2025.335639>
60. Porter, M. E., & Linde, C. V. D. (1995). Toward a new conception of the environment-competitiveness relationship. *Journal of economic perspectives*, 9(4), 97-118. DOI: 10.1257/jep.9.4.97
61. Purnomo, A., Syafrianita, S., Rahayu, M., Rohyana, C., Lestiani, M. E., Supardi, E., & Yant, R. T. Y. (2024). Leveraging green innovation and green ambidexterity for green competitive advantage: The mediating role of green resilient supply chain. *Uncertain Supply Chain Management*, 12(4), 2683. <https://doi.org/10.5267/j.uscm.2024.5.003>
62. Qi, Y., & Yu, G. (2025). Does AI Application Enhance Corporate ESG Performance? The Role of Human Capital Structure. *Sustainability*, 17(24), 11100. <https://doi.org/10.3390/su172411100>
63. Rahman, S., Adeel, S., Ali, M., Bajaba, S., & Latan, H. (2025). Power of Green Capabilities and Artificial Intelligence (AI): Understanding How and When Green Innovation Promotes Sustainability. *Business Strategy and the Environment*, 35(2), 2502. <https://doi.org/10.1002/bse.70252>
64. Rasheed, M. H., Khalid, J., Ali, A., Rasheed, M. B., & Ali, K. (2024). Human Resource Analytics in the Era of Artificial Intelligence: Leveraging Knowledge towards Organizational Success in Pakistan. *Journal of Chinese Human Resource Management*, 15(3). <https://doi.org/10.47297/wspchrmwsp2040-800501.20241503>
65. Rehman, W. ul, Saltik, Ö., Fareed, R., Bekmezci, M., & Değirmen, S. (2025). Translating the role of artificial intelligence into green intellectual capital initiatives and green business process optimization in achieving corporate environmental performance. *Sustainable Futures*, 10, 101345. <https://doi.org/10.1016/j.sftr.2025.101345>
66. Riaz, A., Al-Okaily, M., Sohail, A., Ashfaq, K., & Rehman, S. U. (2024). Green human resource management and sustainable performance: serial mediating role of green knowledge management and

- green innovation. Global Knowledge Memory and Communication. <https://doi.org/10.1108/gkmc-03-2024-0127>
67. Sah, H., & Chen, S. (2025). How Green Absorptive Capacity Drives Corporate Social Performance: A Dual-Mediation Analysis of Green Innovation and Environmental Performance with Green Organizational Culture as a Moderator. Preprints.Org. <https://doi.org/10.20944/preprints202507.1282.v1>
 68. Sahoo, S. (2023). Assessing the impact of stakeholder pressure and green data analytics on firm's environmental performance – understanding the role of green knowledge management and green technological innovativeness. R and D Management, 54(1), 3. <https://doi.org/10.1111/radm.12602>
 69. Saunila, M. (2020). Innovation capability in SMEs: A systematic review of the literature. *Journal of Innovation & knowledge*, 5(4), 260-265. <https://doi.org/10.1016/j.jik.2019.11.002>
 70. Selvan, A. M., Susainathan, S., George, H. J., Parayitam, S., Fazalbhoy, S., & Shaik, S. A. (2026). The synergy between Artificial Intelligence adoption and green entrepreneurship for sustainable business growth. *International Journal of Information Management Data Insights*, 6(1), 100389. <https://doi.org/10.1016/j.jime.2026.100389>
 71. Setyadi, A., Pawirosumarto, S., Damaris, A., & Syarif, D. (2025). Integrating green HRM and sustainable operations: the moderating role of digital transformation in the Indonesian energy sector. *Discover Sustainability*, 6(1). <https://doi.org/10.1007/s43621-025-01764-y>
 72. Sohail, M., Zakaria, S., Sheraz, F., & Sibghatullah, A. (2025). Artificial Intelligence in Green Finance Enhances Esg Performance for Sustainable Development. Research Square (Research Square). <https://doi.org/10.21203/rs.3.rs-7390574/v1>
 73. Taneja, A., Goyal, V., & Malik, K. (2024). *Conceptual Framework of Factors Enhancing Sustainability-oriented Innovations*. *Global Business Review*. This article identifies organizational resources, capabilities, culture, and leadership factors that enhance sustainability-oriented innovation.
 74. Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350. <http://dx.doi.org/10.2139/ssrn.5131710>
 75. Teece, D. J. (2007). *Explicating dynamic capabilities: The nature and micro foundations of (sustainable) enterprise performance*. *Strategic Management Journal*, 28(13), 1319–1350.
 76. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533. https://doi.org/10.1142/9789812834478_0002
 77. Thirakulwanich, A. (2024). Mapping the Evolution of Green Innovation Management: Patterns, Challenges, and Future Directions. *International Journal of Sustainable Development and Planning*, 19(7), 2415. <https://doi.org/10.18280/ijstdp.190701>
 78. Tidd, J., & Bessant, J. (2009). *Managing innovation: Integrating technological, market and organizational change*. Wiley.
 79. Umar, M., Arslan, A., Sroufe, R., & Muhammad, Z. (2024). The nexus between green intellectual capital, blockchain technology, green manufacturing, and sustainable performance. *Environmental Science and Pollution Research*, 31(10), 15026. <https://doi.org/10.1007/s11356-024-31952-8>
 80. Varma, R., Aserkar, R., & Bhoola, V. (2026). Exploring Factors Affecting Sustainable Innovation Performance: Development of Model for Improving Sustainable Innovation Performance. *Sustainability*, 18(4), 1987.
 81. Xie, H., Luo, J., & Tan, X. (2025). Artificial intelligence technology application and corporate ESG performance—evidence from national pilot zones for artificial intelligence innovation and application. *Frontiers in Artificial Intelligence*, 8. <https://doi.org/10.3389/frai.2025.1643684>
 82. Xing, X., Liu, T., Shen, L., & Wang, J. (2020). Linking environmental regulation and financial performance: The mediating role of green dynamic capability and sustainable innovation. *Sustainability*, 12(3), 1007. <https://doi.org/10.3390/su12031007>
 83. Xing, X., Liu, T., Shen, L., & Wang, J. (2020). Linking environmental regulation and financial performance: The mediating role of green dynamic capability and sustainable innovation. *Sustainability*, 12(3), 1007.

THE MEDIATING ROLE OF INNOVATION
CAPABILITY ON THE RELATIONSHIP BETWEEN
CORPORATE SUSTAINABILITY AND
INNOVATION PERFORMANCE IN INDIA: A
STRUCTURAL EQUATION MODELLING
APPROACH

84. Xing, X., Liu, T., Shen, L., & Wang, J. (2020). *Linking Environmental Regulation and Financial Performance: The Mediating Role of Green Dynamic Capability and Sustainable Innovation*. *Sustainability*, 12(3), 1007. The study demonstrates the importance of organizational capabilities and innovation as mediating mechanisms in sustainability-related relationships.
85. Zahid, Z., Zhang, J., Shahzad, M. A., Junaid, M., & Shrivastava, A. (2024). Green Synergy: Interplay of corporate social responsibility, green intellectual capital, and green ambidextrous innovation for sustainable performance in the industry 4.0 era. *PLoS ONE*, 19(8). <https://doi.org/10.1371/journal.pone.0306349>
86. Zhang, C., & Yang, J. (2024). Artificial intelligence and corporate ESG performance. *International Review of Economics & Finance*, 96, 103713. <https://doi.org/10.1016/j.iref.2024.103713>
87. Zhang, Q., Loh, L., & Wu, W. (2020). *Corporate ESG Initiatives and Innovative Performance for Corporate Sustainability*. *Sustainability*. The study confirms that sustainability initiatives can stimulate innovation performance through organizational mechanisms.
88. Zhang, Q., Loh, L., & Wu, W. (2020). How do environmental, social and governance initiatives affect innovative performance for corporate sustainability?. *Sustainability*, 12(8), 3380. <https://doi.org/10.3390/su12083380>
89. Zhang, Q., Loh, L., & Wu, W. (2020). How do environmental, social and governance initiatives affect innovative performance for corporate sustainability?. *Sustainability*, 12(8), 3380.
90. Zhang, Q., Loh, L., & Wu, W. (2020). *How do Environmental, Social and Governance Initiatives Affect Innovative Performance for Corporate Sustainability?* *Sustainability*, 12(8), 3380. This study examines the relationship between ESG initiatives, corporate sustainability, and innovation performance.
91. Zhou, S., Rashid, M. H. U., Mohd. Zobair, S. A., Sobhani, F. A., & Siddik, A. B. (2023). Does ESG impact firms' sustainability performance? The mediating effect of innovation performance. *Sustainability*, 15(6), 5586. <https://doi.org/10.3390/su15065586>
92. Zhou, S., Rashid, M. H. U., Mohd. Zobair, S. A., Sobhani, F. A., & Siddik, A. B. (2023). Does ESG impact firms' sustainability performance? The mediating effect of innovation performance. *Sustainability*, 15(6), 5586.