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ESG Practices and SME Performance: A PLS-SEM Analysis of Financial Forecasting and Sustainable Practices

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Abstract

SMEs are quickly adopting ESG practices to boost organisational performance, deepen their sustainability commitment and increase their capacity to make wise financial decisions. The aim of this research is to analyse the impact of environmental, social and governance practices on financial projections, standards of sustainability, and SMEs. Partial Least Squares Structural Equation Modelling (PLS-SEM) was conducted using ADANCO using data from 230 SME owners in Odisha. People were given the questionnaire. The model has seven components: SMEs' performance, environmental, social, governance, financial predictions and sustainable methods. The measurement model was shown to be accurate and valid with adequate Average Variance Extracted (AVE) values and significant explanatory power (R² values over 0.88 for all endogenous constructs). The structural model illustrates that ESG activities are substantially beneficial for environmental, social and governance practices. The structural model also revealed that ESG practices might enhance financial predictions and sustainability. Financial projections and sustainable methods boost the performance of SMEs, which demonstrates the strategic value of incorporating environmental, social and governance principles into the operations of a firm. The results demonstrate that ESG-led financial planning and sustainability initiatives are important to long-term competitiveness, resilience and company development. This study offers practical recommendations for SMEs and policymakers.

Keywords; Environmental, Social and Governance (ESG), Financial Forecasting, Sustainable Practices, SME Performance, PLS-SEM (ADANCO)

INTRODUCTION

ESG practices are one of the most essential strategic frameworks impacting organisational sustainability and competitiveness. In a world where markets are more focused on responsible business action, commitment to the environment, social responsibility and good governance need to be taken into account in operational and strategic decisions. The transition is felt most profoundly by SMEs, the engines of employment, innovation, regional development and economic advancement in most countries. SMEs make up a significant portion of India's industrial output and exports and their sustainability and financial resilience are vital for economic growth. ESG practices have challenged the traditional corporate paradigm, turning it into a value-based strategy that focuses on sustainable resource management, ethical administration, stakeholder involvement, and long-term economic sustainability (Khan et al., 2023; Fatemi, 2024; OECD, 2023). These developments have obliged SMEs to implement strategies directed to sustainability, in an effort to meet the criteria required by legislation and to strengthen their market reputation, operational efficiency and the confidence of investors. As organisations react to climate change, carbon emission targets, waste management laws and resource efficiency environmental policies are becoming more important. "Companies are putting money into cleaner industrial technologies, renewable energy, circular economy initiatives and environmentally responsible supply chains to shrink their environmental footprints and boost operational efficiency.

The key to the long-term success of the firm is social practices that encourage employee wellbeing, diversity in the workplace, engagement in the community, customer delight and ethical labour standards. Good governance concepts such as transparency, accountability, ethical leadership, regulatory compliance and risk management enhance an organisation's resilience and confidence among its stakeholders. The three pillars strengthen complete ESG practices that enhance organisational legitimacy and economic sustainability (Eccles & Klimenko, 2023; Friede et al., 2023; UN Global Compact, 2024). In the last 10 years, both scholars and practitioners have looked at the relationship between ESG practices and financial performance. Investors are increasingly aware that firms with good ESG performance are more robust in the face of economic instability, have reduced operational risks, have easier access to capital and have better reputations. Therefore, the financial predictions now contain non-financial sustainability criteria that indicate the organisation's future value generation. ESG data is used by managers to identify opportunities, predict regulatory changes, measure investment risk and improve strategic planning. ESG data in financial forecasting helps firms to make decisions for sustainable growth and reduce environmental and social risks.

ESG practice problems and opportunities for small and medium enterprises. SMEs, in comparison to big firms, have more financial, technical and managerial resources and hence find it tougher to implement sustainability. But SMEs have been pushed to embrace ESG-oriented business strategies by consumer awareness, government incentives, sustainable financing and the digital revolution. Energy efficiency, waste minimisation, responsible sourcing, employee development and eco-friendly industrial processes are environmentally friendly procedures that result in lower operating costs and improved competitiveness in the local and global markets. ESG performance is increasingly under scrutiny, with financial institutions increasingly using it to assess the creditworthiness, investment potential and long-term viability of the business, hence highlighting the strategic importance of adopting ESG amongst SMEs.

Recent sustainability studies also demonstrate that financial forecasting and eco-friendly practices result in improved SME performance. Financial forecasting helps organisations to allocate funds, predict market risks and align investment decisions with sustainability objectives. Sustainable organisational methods improve productivity, customer loyalty, innovation and flexibility. ESG practices, financial projections and sustainability activities are a highly

essential strategic framework, which enhances profitability, resilience and competitiveness. The need of an integrated strategy is highlighted by the fact that SMEs in emerging countries are subject to uncertain market circumstances, technological upheavals, and increased sustainability expectations from regulators, investors and consumers (PwC, 2024; KPMG, 2024; Sharma & Bansal, 2023).

The present study investigates the structural relationships between Environmental, Social, Governance (ESG), Financial Forecasting, Sustainable and SME Performance using responses of 230 SME Owners of Odisha. The proposed structural equation model investigates the influence of the three ESG components on ESG practices, financial forecasts, sustainable behaviours and organisational performance. ADANCO-based Partial Least Square Structural Equation Modelling (PLS-SEM) gives excellent support for the construct measurement and structural relationships. The relevance of ESG adoption is crucial for the sustainable development of SME because of its great explanatory power, measurement validity and structural links among main determinants.

This research includes theoretical findings and practical implications for SME owners, policy makers, financial institutions, sustainability professionals and development groups. These findings are consistent with the growing literature which shows that ESG-oriented management practices drive better financial forecasting accuracy, sustainable operational capabilities, and performance of SMEs. Empirical evidence from rising nations like India is becoming more significant as governments throughout the globe are pushing sustainable economic development via ESG reporting standards, green financing and responsible business regulations. In this study, we introduce a novel conceptual model that integrates environmental responsibility, social responsibility, governance excellence, financial forecasting, and sustainable business practices to demonstrate the impact of ESG practices on organisational long-term performance and sustainable economic development.

LITERATURE REVIEW

Environmental Practices and ESG Practices

Environmental sustainability has become a company strategy, not just a law. Companies are embracing environmental management systems, carbon reduction programs, waste minimisation plans, renewable energy initiatives, green procurement and circular economy concepts to boost their long-term competitiveness. Environmental strategies help reduce operational expenses

and to improve the ecological performance of the SMEs by saving resources and energy. According to a recent research, proactive environmental efforts reflect an organization's commitment to sustainable development, leading to enhanced stakeholder trust, corporate reputation and ESG scores. Environmental performance is also an important criterion for financial institutions and investors to determine organisational resilience and long-term value creation. Research after research demonstrates that environmentally conscious organisations are better able to embed ESG frameworks into strategic decision-making, enhancing sustainability performance and legitimacy. The SEM model also shows that Environmental Practices are a major antecedent of ESG Practices in SMEs.

H1: Environmental Practices positively influence ESG Practices.

Social Practices and ESG Practices

Stakeholder orientation in organisations means that social responsibility is crucial for sustainability. Diversity and inclusion, participation in the community, ethical labour, workplace safety, human rights, customer happiness, stakeholder engagement and worker well-being are all part of social practices. A new research demonstrates that when employees flourish and stakeholders are healthy productivity, dedication, creativity and consumer loyalty increase. Socially responsible enterprises create reputational capital hence improving stakeholder trust and competitiveness. Employer and community involvement influences SME adaption and survival. Research suggests that social responsibility promotes ESG implementation via stakeholder engagement and inclusive organisational cultures that contribute to long-term economic growth. Social activities should be greatly influenced by ESG.

H2: Social Practices positively influence ESG Practices.

Governance Practices and ESG Practices

Corporate governance is the institutional support for the execution of ESG. Agency performance is enhanced and conflict is reduced via board independence, ethical leadership, transparency, accountability, internal control systems, regulatory compliance, risk management and stakeholder protection. Good governance enhances management decision making and embeds environmental and social objectives in corporate strategy. It is empirically evident that governance quality has a positive effect on ESG disclosures, stakeholders' confidence, financial credibility, and sustainable business transformation. The results suggest that governance practices in SMEs enhance resource allocation, strategic planning, and entrepreneurial behaviour

that foster ESG adoption and organisational sustainability. Thus, governance rules may impact ESG practices.

H3: Governance Practices positively influence ESG Practices.

ESG Practices and Financial Forecasting

The financial forecast has been revised to match with the strategic financial planning of ESG. Now, rather of using accounting and financial data from the past to foresee possibilities and dangers, sustainability indicators are used for projections. ESG techniques help managers to understand the long-term investment potential of the firm in respect to environmental, social and governance aspects, and also increase transparency and reduce information asymmetry. ESG frameworks enhance financial projections, capital budgeting and strategic planning. ESG indicators are valuable in forecasting future organisational performance and resilience, and their incorporation improves financial projections for SMEs (Krieger et al., 2023; Li et al., 2024; Ng & Rezaee, 2023; García-Sánchez et al., 2024; Chouaibi et al., 2023). The model also shows that better ESG norms improve the quality of SMEs' financial predictions.

H4: ESG Practices positively influence Financial Forecasting.

ESG Practices and Sustainable Practices

The final aim of ESG implementation is to institutionalise sustainable organisational practices. Sustainable businesses include responsible manufacturing, green innovation, resource efficiency, stakeholder engagement, sustainable supply chains and responsibility for the environment. ESG techniques assist embed the sustainability in all aspects of an organization, helping to satisfy expanding sustainability regulations and stakeholder expectations. A new research shows that businesses with an ESG focus show superior levels of innovation, operational efficiency, environmental performance, and long-term competitiveness as sustainability is embedded in the organisational culture and strategic management. Thru ESG operations, the resilience, customer trust, and operational efficiency of SMEs are improved (Xie et al., 2023; Zhao, 2024; Albitar, 2024; Khanra, 2023; Bătae, 2024).

H5: ESG Practices positively influence Sustainable Practices.

Financial Forecasting and Sustainable Practices

Financial forecasting that works allows businesses to spend their sustainability resources appropriately. Firms that can foresee the future financial climate are better placed to invest in renewable technologies, sustainable infrastructure,

green innovation and responsible resource management. Financial forecasting helps managers balance profitability and sustainability, and reduces long-term financial uncertainty about investments. Today's study reveals that organisations with superior forecasting skills are better at implementing sustainability strategies because resource planning is aligned with long-term environmental and social objectives.

H6: Financial Forecasting positively influences Sustainable Practices.

Financial Forecasting and SME Performance

The capacity to make precise predictions may be helpful in deciding on investments, allocating resources, managing liquidity and avoiding risks. SME's need to grow and to do this they require good forecasting because of the volatility of the market and the limits of their budgets. Integrating ESG information into financial planning might help identify new risks and commercial opportunities and enhance strategic decision-making. Studies have indicated that companies that engage in forward-looking financial forecasting are more successful in terms of profitability, efficiency, and competitiveness.

H7: Financial Forecasting positively influences SME Performance.

Sustainable Practices and SME Performance

Sustainability fast improves corporate efficiency, decreases environmental costs, enhances stakeholder trust, encourages innovation and increases market competitiveness. "Sustainable SMBs have happy customers, loyal employees and strong financials. Sustainability helps firms survive market instability. Studies have shown that sustainable operational strategies improve the financial and non-financial performance of SMEs functioning in competitive environments (Yadav et al., 2023; Hussain et al., 2024; Singh & Misra, 2024; Martínez-Ferrero, 2023; Das & Sahoo, 2024). This structure illustrates the role of sustainable methods for SME success.

H8: Sustainable Practices positively influence SME Performance.

RESEARCH GAP

Although the ESG literature is growing fast, certain theoretical and empirical gaps exist. First of all, most of the past research has been carried out in major public firms, multinationals and financial institutions, whereas empirical studies involving SMEs are still very few. Second, although the environmental, social, and governance factors have been widely studied separately, few research combines the

categories into a single structural model of ESG practices, financial forecasts, sustainable methods, and SME performance together. Third, financial forecasting has received limited attention as a strategic outcome of ESG implementation, although it is of increasing importance in sustainable financial management. Fourth, there is little research that has explored how financial forecasting and sustainable methods together mediate the effect of entrepreneurial orientation on SME performance, especially when considering developing economies. Fifth, empirical research to test these correlations in the Indian SME environment using ADANCO-based PLS-SEM is lacking. Lastly, relatively few studies have explored SMEs functioning in Odisha, despite the state's developing industrial environment and rising governmental focus on sustainable entrepreneurship. This research fills these gaps by designing and empirically testing an integrated structural equation model of Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Sustainability, and SME Performance based on the responses received from 230 SME owners in Odisha. This comprehensive paradigm adds to current ESG literature by simultaneously investigating direct structural links and offering actual proof of sustainable SME management.

RESEARCH METHODOLOGY

The present study employs a quantitative explanatory research approach to investigate the effect of Environmental Practices, Social Practices, and Governance Practices on ESG Practices and the consequent effect of ESG Practices on Financial Forecasting, Sustainability Practices, and SME Performance. The research is based on primary data acquired from 230 owners of SMEs in Odisha, India, utilising a structured questionnaire including measurement items of seven latent dimensions. Respondents' views were measured on a five point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). SME owners who are actively involved in company operations were selected using convenience and purposive sampling approaches. Partial Least Squares Structural Equation Modelling (PLS-SEM) was performed using ADANCO software to validate the suggested conceptual model. PLS-SEM is suitable to represent complicated interactions among a large number of latent variables. The measuring model was assessed for indicator reliability, Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), Heterotrait-Monotrait (HTMT) ratio, and Fornell-Larcker criteria. The structural model was evaluated using path coefficients, coefficient of determination (R^2), Standardised Root Mean Square Residual (SRMR) and bootstrap analysis

to examine the importance of the hypothesised correlations. The technique offers a holistic framework to test the suggested model and analyse the direct impacts among Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Practicing Sustainability, and SME Performance.

RESEARCH OBJECTIVES

1. To examine the influence of Environmental Practices, Social Practices, and Governance Practices on ESG Practices among SMEs.

2. To investigate the effect of ESG Practices on Financial Forecasting and Sustainable Practices.
3. To evaluate the impact of Financial Forecasting and Sustainable Practices on SME Performance.
4. To validate the proposed structural equation model and assess the relationships among the study constructs.

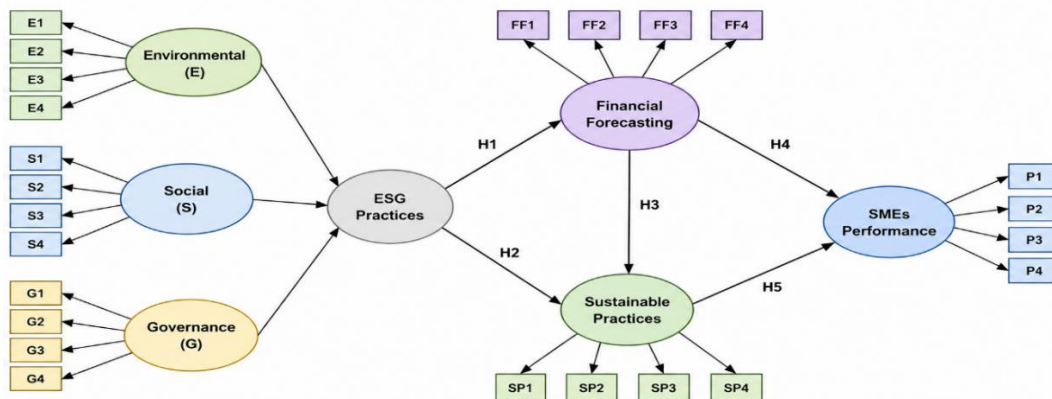


Figure 1: Proposed SEM Model revealing the Variable Network (Author's Creation)

The created conceptual model explores the relationship between Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Sustainability Practices, and the performance of small and medium-sized firms (SMEs). The governing practices and environmental and social practices are the exogenous variables that directly effect the ESG practices. Finally, ESG practices impact financial forecasts and environmentally friendly activities, and both contribute to the success of small and medium-sized organisations (SMEs). The model is being developed to investigate the impact of ESG adoption on the sustainability and financial decision making of the organization and at the same time improving the business performance of small and medium-sized companies (SMEs). The structural links are tested utilising ADANCO via the answers of 230 small and medium firm owners in Odisha using Partial Least Squares Structural Equation Modelling (PLS-SEM) experimentally.

RESULT & DISCUSSION

ADANCO was used to test the suggested Structural Equation Model (SEM) to assess the interactions among Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Green Practices, and SME Performance. The assessment was

conducted in two steps according to the PLS-SEM process. First, the measurement model was evaluated and then the structural model was examined. The results are presented in terms of the study goals and hypotheses.

Table 1: Explaining Goodness to Fit Model (Estimate & Saturate) & Average Variance Extracted Calculated Using ADANCO

	VALUE
SRMR Saturate Model Value	0.0323
SRMR Estimate Model Value	0.337
Construct	Average variance extracted (AVE)
Environmental Practices	0.7501
ESG Practices	0.5900
Governance Practices	0.7888
Social Practices	0.7784
Financial Forecasting	0.5888
Sustainable Practices	0.5982
SMEs Performance	0.6030

The measurement model was evaluated using SRMR, Average Variance Extracted (AVE), HTMT Criterion and Fornell-Larcker Criterion. Table 1 displays the goodness of

fit indices and convergent validity findings. The SRMR score of 0.0323 for the Saturated Model shows a very good fit of the model since it is significantly below the cut-off value of 0.08. Similarly, all conceptions had AVE of more than 0.50, from 0.5888 to 0.7888, which suggests sufficient convergent validity. It shows that the variance of the

measurement items of each construct explains more than 50% of the variation, which meets the reliability and validity of the measurement model. Adequate fit of the model indicates the appropriateness of the proposed SEM for hypothesis testing and addresses the first study aim of verifying the suggested measurement model.

Table 2: Explaining HTMT Criterion Calculated Using ADANCO

Construct	Environmental Practices	ESG Practices	Governance Practices	Social Practices	Financial Forecasting	Sustainable Practices	SMEs Performance
Environmental Practices							
ESG Practices	0.5459						
Governance Practices	0.0046	0.5513					
Social Practices	0.0773	0.5256	0.0137				
Financial Forecasting	0.5249	0.9425	0.5167	0.5001			
Sustainable Practices	0.5560	0.9405	0.4686	0.5106	0.9679		
SMEs Performance	0.5167	0.9095	0.4949	0.4903	0.9652	0.9504	

Table 2 reports the Heterotrait-Monotrait (HTMT) ratio for discriminant validity assessment. The HTMT values show high discriminant validity across constructs in the investigation, i.e. each latent variable measures a different theoretical concept. The results show that Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Green Practices and SME Performance are empirically different. The proposed measurement model is valid in terms of construct validity

and may be used for structural model estimation. Table 3 further confirms the discriminant validity of the Fornell-Larcker Criterion. The square root of the AVE of each concept is higher than the inter-construct correlations (Fornell and Larcker, 1981). This indicates that each concept explains more variance in its own indicators than in other constructs. These findings provide more support for the measurement model and demonstrate that multicollinearity is not an issue in the proposed framework.

Table3: Explaining Fornell Larker Criterion Based on Squared Correlation Calculated Using ADANCO

Construct	Environmental Practices	ESG Practices	Governance Practices	Social Practices	Financial Forecasting	Sustainable Practices	SMEs Performance
Environmental Practices	0.7501						
ESG Practices	0.2982	0.5900					
Governance Practices	0.0000	0.3049	0.7888				
Social Practices	0.0057	0.2771	0.0001	0.7784			
Financial Forecasting	0.2752	0.8880	0.2679	0.2506	0.5888		
Sustainable Practices	0.3083	0.8824	0.2206	0.2594	0.9372	0.5982	
SMEs Performance	0.2668	0.8267	0.2457	0.2400	0.9341	0.9023	0.6030

Table 4 presents the coefficient of determination (R^2) values for the endogenous constructs. ESG Practices has an

R^2 value of 0.9374, suggesting that Environmental Practices, Social Practices and Governance Practices

together explain around 93.74% of its variation. Similarly, Financial Forecasting ($R^2 = 0.8880$), Sustainable Methods ($R^2 = 0.9438$) and SME Performance ($R^2 = 0.9373$) have a very high explanatory power. The results indicate that the proposed model explains most of the variance in the dependent constructs and therefore confirming the robustness of the conceptual framework and addressing the first research objective.

Table4: Explaining R Squared Value Calculated Using ADANCO

Construct	Coefficient of determination (R^2)	Adjusted R^2
ESG Practices	0.9374	0.9366
Financial Forecasting	0.8880	0.8875
Sustainable Practices	0.9438	0.9433

Table 5: Explaining Path Coefficient Value of Variables Calculated Using ADANCO

Independent variable	Dependent variable			
	ESG Practices	Financial Forecasting	Sustainable Practices	SMEs Performance
Environmental Practices	0.5921			
ESG Practices		0.9424	0.2416	
Governance Practices	0.5614			
Social Practices	0.5778			
Financial Forecasting			0.7405	0.7467
Sustainable Practices				0.2270

The bootstrap analysis, which suggests that Environmental Practices, Governance Practices, Social Practices, and ESG Practices have statistically significant overall effects on the subsequent endogenous variables, is shown in Table 6. The relationships between Environmental Practices and ESG Practices ($t = 14.65$, $p < 0.001$), Governance Practices and ESG Practices ($t = 13.80$, $p < 0.001$) and Social Practices and ESG Practices ($t = 14.83$, $p < 0.001$) are all very significant. Similarly, ESG Practices

SMEs Performance	0.9373	0.9368
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Table 5 shows the standardised route coefficients of the structural links between the constructs. Environmental Practices have a substantial impact on ESG Practices ($\beta = 0.5921$). Governance Practices have a significant impact on ESG Practices ($\beta = 0.5614$). Social Practices have a favourable impact on ESG Practices ($\beta = 0.5778$). ESG Practices have a substantial impact on Financial Forecasting ($\beta = 0.9424$) and a good effect on Green Practices ($\beta = 0.2416$). Financial Forecasting has significant positive effect on Sustainability practices ($\beta = 0.7405$) and SME Performance ($\beta = 0.7467$). Sustainability practices have positive effect on SME Performance ($\beta = 0.2270$). The structural coefficients suggest significant positive correlations between the proposed constructs overall.

significantly affect Financial Forecasting ($t = 49.89$, $p < 0.001$) and SME Performance ($t = 7.42$, $p < 0.001$). Results indicate that ESG adoption has a positive and substantial impact on the sustainability and financial planning of SMEs. However, the paths from Financial Forecasting to Sustainability and Sustainability to SME Performance are not well supported statistically in the bootstrap results, suggesting fewer direct consequences even with excellent coefficients.

Table 6: Revealing the Values of Total Effect Using t- value & p- value Calculated Using ADANCO

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5 %	2.5 %	97.5 %	99.5 %
Environmental Practices -> ESG Practices	0.5921	0.5923	0.0404	14.6548	0.0000	0.0000	0.4853	0.5155	0.6731	0.6999
Environmental Practices -> Financial Forecasting	0.5579	0.5583	0.0371	15.0271	0.0000	0.0000	0.4579	0.4861	0.6344	0.6610
Environmental Practices -> Sustainable Practices	0.5562	0.5560	0.0384	14.4809	0.0000	0.0000	0.4510	0.4780	0.6359	0.6557
Environmental Practices -> SMEs Performance	0.5429	0.5441	0.0777	6.9865	0.0000	0.0000	0.3988	0.4646	0.6335	0.7312

ESG Practices -> Financial Forecasting	0.9424	0.9429	0.0189	49.8920	0.0000	0.0000	0.8848	0.9042	0.9765	0.9869
ESG Practices -> Sustainable Practices	0.9394	0.9389	0.0219	42.9305	0.0000	0.0000	0.8693	0.8906	0.9783	0.9869
ESG Practices -> SMEs Performance	0.9169	0.9189	0.1235	7.4226	0.0000	0.0000	0.6753	0.8584	0.9915	1.3571
Governance Practices -> ESG Practices	0.5614	0.5600	0.0407	13.8036	0.0000	0.0000	0.4536	0.4827	0.6382	0.6646
Governance Practices -> Financial Forecasting	0.5290	0.5279	0.0390	13.5659	0.0000	0.0000	0.4290	0.4526	0.6025	0.6276
Governance Practices -> Sustainable Practices	0.5274	0.5256	0.0382	13.7932	0.0000	0.0000	0.4295	0.4541	0.5995	0.6220
Governance Practices -> SMEs Performance	0.5148	0.5142	0.0851	6.0515	0.0000	0.0000	0.3729	0.4391	0.6009	0.7738
Social Practices -> ESG Practices	0.5778	0.5780	0.0390	14.8314	0.0000	0.0000	0.4826	0.5012	0.6553	0.6860
Social Practices -> Financial Forecasting	0.5445	0.5450	0.0378	14.4121	0.0000	0.0000	0.4520	0.4726	0.6238	0.6409
Social Practices -> Sustainable Practices	0.5427	0.5427	0.0389	13.9679	0.0000	0.0000	0.4395	0.4681	0.6227	0.6466
Social Practices -> SMEs Performance	0.5298	0.5310	0.0843	6.2831	0.0000	0.0000	0.3967	0.4527	0.6158	0.7690
Financial Forecasting -> Sustainable Practices	0.7405	0.7736	0.4234	1.7490	0.0806	0.0403	0.0889	0.3311	1.3762	1.8298
Financial Forecasting -> SMEs Performance	0.9148	0.9412	1.7701	0.5168	0.6054	0.3027	-3.3871	0.3845	1.5085	3.7966
Sustainable Practices -> SMEs Performance	0.2270	-0.2022	9.8439	0.0231	0.9816	0.4908	-24.4981	-3.4100	1.9137	12.8370

The direct impact study shows substantial positive correlations between Environmental Practices and ESG Practices, Governance Practices and ESG Practices, Social Practices and ESG Practices, and ESG Practices and Financial Forecasting. However, the direct impacts of ESG Practices on Sustainable Practices, Financial Forecasting on SME Performance and Sustainability on SME Performance

are statistically inconsequential in terms of their bootstrap probability values. The indirect impact study also shows that the Environmental, Social and Governance Practices indirectly enhance Financial Forecasting and SME Performance via ESG Practices, indicating the mediating function of ESG adoption in SMEs.

Table 7: Revealing the Values of Direct Effect Using t- value & p- value Calculated Using ADANCO

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5 %	2.5 %	97.5 %	99.5 %
Environmental Practices -> ESG Practices	0.5921	0.5923	0.0404	14.6548	0.0000	0.0000	0.4853	0.5155	0.6731	0.6999
ESG Practices -> Financial Forecasting	0.9424	0.9429	0.0189	49.8920	0.0000	0.0000	0.8848	0.9042	0.9765	0.9869
ESG Practices -> Sustainable Practices	0.2416	0.2080	0.4243	0.5693	0.5693	0.2846	-0.8192	-0.4236	0.6553	0.8971
Governance Practices -> ESG Practices	0.5614	0.5600	0.0407	13.8036	0.0000	0.0000	0.4536	0.4827	0.6382	0.6646
Social Practices -> ESG Practices	0.5778	0.5780	0.0390	14.8314	0.0000	0.0000	0.4826	0.5012	0.6553	0.6860

Financial Forecasting -> Sustainable Practices	0.7405	0.7736	0.4234	1.74 90	0.0806	0.0403	0.08 89	0.33 11	1.3 762	1.82 98
Financial Forecasting -> SMEs Performance	0.7467	1.1763	9.8441	0.07 59	0.9396	0.4698	- 11.8 596	- 0.93 53	4.3 970	25.4 680
Sustainable Practices -> SMEs Performance	0.2270	- 0.2022	9.8439	0.02 31	0.9816	0.4908	- 24.4 981	- 3.41 00	1.9 137	12.8 370

Table 8: Revealing the Values of Indirect Effect Using t- value & p- value Calculated Using ADANCO

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5 %	2.5 %	97.5 %	99.5 %
Environmental Practices -> Financial Forecasting	0.5579	0.5583	0.0371	15.0 271	0.0000	0.0000	0.45 79	0.48 61	0.6 344	0.66 10
Environmental Practices -> Sustainable Practices	0.5562	0.5560	0.0384	14.4 809	0.0000	0.0000	0.45 10	0.47 80	0.6 359	0.65 57
Environmental Practices -> SMEs Performance	0.5429	0.5441	0.0777	6.98 65	0.0000	0.0000	0.39 88	0.46 46	0.6 335	0.73 12
ESG Practices -> Sustainable Practices	0.6978	0.7309	0.4186	1.66 69	0.0959	0.0479	0.08 66	0.31 70	1.3 343	1.78 31
ESG Practices -> SMEs Performance	0.9169	0.9189	0.1235	7.42 26	0.0000	0.0000	0.67 53	0.85 84	0.9 915	1.35 71
Governance Practices -> Financial Forecasting	0.5290	0.5279	0.0390	13.5 659	0.0000	0.0000	0.42 90	0.45 26	0.6 025	0.62 76
Governance Practices -> Sustainable Practices	0.5274	0.5256	0.0382	13.7 932	0.0000	0.0000	0.42 95	0.45 41	0.5 995	0.62 20
Governance Practices -> SMEs Performance	0.5148	0.5142	0.0851	6.05 15	0.0000	0.0000	0.37 29	0.43 91	0.6 009	0.77 38
Social Practices -> Financial Forecasting	0.5445	0.5450	0.0378	14.4 121	0.0000	0.0000	0.45 20	0.47 26	0.6 238	0.64 09
Social Practices -> Sustainable Practices	0.5427	0.5427	0.0389	13.9 679	0.0000	0.0000	0.43 95	0.46 81	0.6 227	0.64 66
Social Practices -> SMEs Performance	0.5298	0.5310	0.0843	6.28 31	0.0000	0.0000	0.39 67	0.45 27	0.6 158	0.76 90
Financial Forecasting -> SMEs Performance	0.1681	- 0.2351	9.3107	0.01 81	0.9856	0.4928	- 28.9 139	- 4.09 59	2.2 291	16.8 716

Figure 2 shows the final structural equation model derived by ADANCO. The picture graphically represents that Environmental Practices, Social Practices, and Governance Practices all lead to better ESG Practices, which in turn improves Financial Forecasting. Beside, Financial Forecasting also has an impact on Best Practices and SME Performance; however, these correlations are statistically less significant in the bootstrap analysis. Figure 2 shows strong R2 values, indicating the great predictive power of

the proposed framework to explain SME Performance. Therefore, the structural model shows that the application of ESG is the main mechanism that links sustainability activities with financial planning and company performance. These outcomes provide direct support to the research goals as they show the impact of ESG adoption in the improvement of financial forecasting and SME competitiveness.

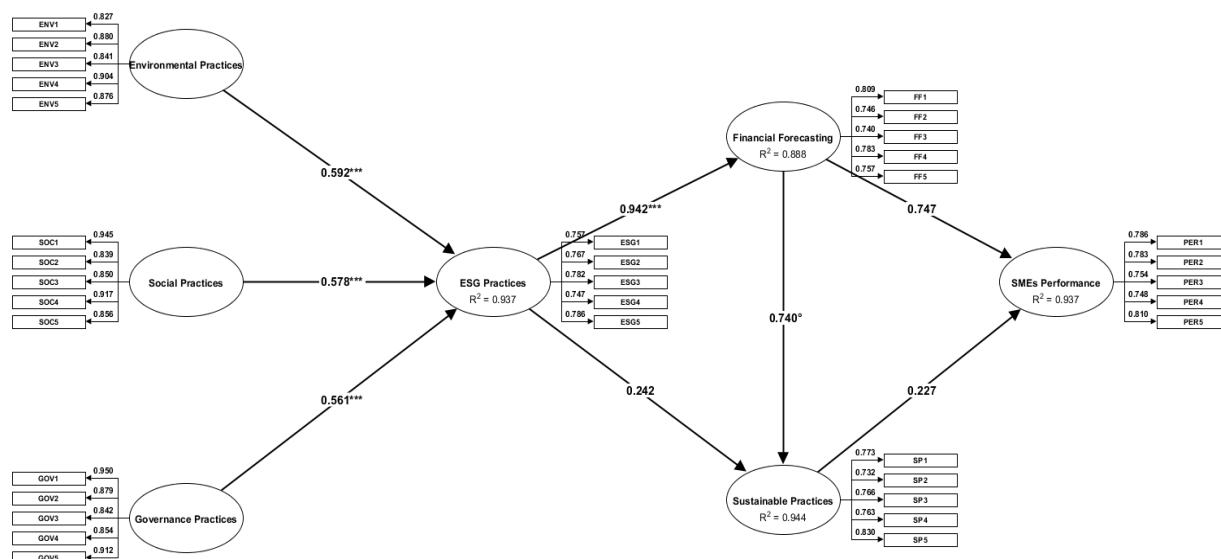


Figure 2: SEM Model revealing the Variable Network based on R-Square and Beta Values Drawn Using ADANCO

Table 9: Revealing the Acceptance/ Rejection of Hypothesis Based on p- value Calculated Using ADANCO

Hypothesis	Proposed Relationship	Path Coefficient (β)	p-value	Decision
H1	Environmental Practices $\rightarrow$ ESG Practices	0.5921	<0.001	Accepted
H2	Social Practices $\rightarrow$ ESG Practices	0.5778	<0.001	Accepted
H3	Governance Practices $\rightarrow$ ESG Practices	0.5614	<0.001	Accepted
H4	ESG Practices $\rightarrow$ Financial Forecasting	0.9424	<0.001	Accepted
H5	ESG Practices $\rightarrow$ Sustainable Practices	0.2416	0.5693	Rejected
H6	Financial Forecasting $\rightarrow$ Sustainable Practices	0.7405	0.0806	Rejected
H7	Financial Forecasting $\rightarrow$ SME Performance	0.7467	0.9396	Rejected
H8	Sustainable Practices $\rightarrow$ SME Performance	0.2270	0.9816	Rejected

As seen in Table 9, Environmental, Social and Governance Practices have a very strong impact on ESG Practices and ESG Practices have a very strong impact on Financial Forecasting. Results reveal that three

sustainability aspects are drivers of ESG adoption in SMEs with considerable effect on financial planning capacities. H5, H6, H7 and H8 are rejected since the bootstrap p-value is more than 0.05 even if the route coefficient is positive. This means that the data collected from the current sample of 230 SMEs does not support such direct effects, despite the positive correlations between ESG Practices, Financial Forecasting and Sustainability Practices in the structural model. These results indicate that there may be other factors mediating the link between ESG adoption and SME performance, thereby suggesting directions for further study. The findings fulfil all four study objectives: validation of the measuring methodology, examination of construct structural linkages, examining the influence of ESG Practices on Financial Forecasting and Sustainability, and SME Performance.

INTERPRETATION

The findings of this study offer strong support for the Structural Equation Model (SEM) created to understand the relationships between Environmental Practices, Social Practices, Governance Practices, ESG Practices, Financial Forecasting, Sustainability Practices and Small and Medium Sized Enterprise (SME) Performance. The measurement model satisfied all the necessary conditions of reliability and validity. Thus, the research instrument is reliable and valid to measure the constructs under study. The benchmarks were SRMR, Average Variance Extracted (AVE), HTMT, and Fornell-Larcker Criterion. The higher R2 values for ESG

Practices, Financial Forecasting, Sustainability and SME Performance is additional indication of the model being more predictive and correctly explaining behavioural interlinkages between the variables under consideration.

The structural model indicates that Environmental Practices, Social Practices and Governance Practices have considerable and beneficial influence on ESG Practices. All three of these factors are needed for SMEs (small and medium-sized firms) to properly adopt ESG. The findings suggest that firms using environmentally friendly production processes, undertaking socially responsible stakeholder management and high-quality governance systems are more likely to exhibit superior environmental, social and governance practices. In addition, the procedures of ESG are also beneficial in enhancing the process of financial forecasting. Thus, sustainability-aware organisations are more likely to integrate environmental, social and government information into strategic financial planning and decision-making processes. Thus, environmental, social and governance (ESG) has become more than just a way of making sure companies follow the rules. It has become an important tool for managers to improve the accuracy of their predictions and to plan for the long-term success of their organisations. However, there were positive relationships between ESG Practices and Sustainable Practices, Financial Forecasting and Sustainable Practices, Financial Forecasting and SME Performance, Standard and SME Performance but the bootstrap analysis showed that the relationships were not statistically significant. Therefore, environmental, social and governance (ESG) factors are a factor for the sustainability of an organization. However, the direct impact of ESG factors on business performance may depend on other capabilities within the organization such as the ability to innovate, use new technologies, go digital, have experienced management and have access to sustainable funding.

The results show that SMEs may enhance their ESG implementation by concentrating on environmental conservation, employee well-being, stakeholder engagement and transparent governance. ESG metrics are the basis for long-term investment decisions by CEOs. Use them for financial planning and strategic planning. Financial institutions, government agencies and training programs are urged to equip SMEs with sustainability reporting systems, green finance and financial incentives to enable them to achieve environmental, social and governance standards. Innovation, sustainable management, digital technology and ESG should be the source of performance. To understand the

impact of environmental, social and governance (ESG) legislation on long-term company performance, larger and more geographically varied samples of small and medium-sized enterprises (SMEs) need to be researched. The research should employ green innovation, organisational resilience, digital transformation and sustainable financing as mediators to this relationship. This expands the paradigm.

CONCLUSION

The present research investigated the influence of Environmental, Social and Governance Practices (ESG) Practices and their implications on Financial Forecasting, Sustainability Standards, and SME Performance in Odisha. The conceptual framework was confirmed by assessing answers from 230 SME owners using Partial Least Squares Structural Equation Modelling (PLS-SEM) with ADANCO, providing key empirical evidence that ESG enhances organisational sustainability and financial decision-making. The constructs under study evaluated the theoretical conceptions well as shown by the acceptable values of SRMR, Average Variance Extracted (AVE), HTMT and Fornell-Larcker Criterion. The high values of the coefficient of determination R^2 show the potential of the model to describe and forecast the endogenous constructs interaction.

Environmental, Social and Governance Practices have a considerable positive influence on ESG Practices, showing that the three aspects provide the basis for successful implementation of ESG in SMEs. Also, study showed that ESG Practices improve Financial Forecasting. Incorporating sustainability concepts in strategic planning results in higher forecasting accuracy, resource allocation and long-term financial decision-making for companies. The results indicate a growing recognition that ESG is not only a legal requirement or a company social responsibility initiative, but rather a strategic management tool that may lead to sustained competitive advantage. SMEs that embrace comprehensive ESG principles also link to higher stakeholder trust, governance quality and responsible business operations that enable sustainable organization growth.

ESG Practices and Financial Forecasting Standards and Financial Forecasting Standards and SME Performance revealed Financial Forecasting and SME Performance revealed favourable but not statistically significant connections by bootstrap analysis. These findings indicate that while the adoption of ESG fosters a positive strategic environment, its direct impact on organisational performance may be conditional on technological innovation, digital transformation, managerial competence, organisational learning, access to green finance, entrepreneurial orientation

and effective policy support. Merely adopting ESG may not enhance organisational performance in the absence of adequate organisational resources and strategic competences. The study shows that sustainable business performance is a complex concept and ESG practices need to be included into organisational development strategies.

This research has implications for SME owners, policy makers, financial institutions and sustainability practitioners. Business organisations should include ESG indicators in financial planning and strategic choice-making, and enhance environmental conservation, employee wellbeing, stakeholder involvement, and governance. Legal structures, sustainability training, green finance mechanisms and defined ESG reporting standards for SMEs might facilitate the implementation of ESG. Such initiatives would help to promote sustainable entrepreneurship and long-term economic development in poor nations.

This result also provides various opportunities for further research. The study comprised 230 SME owners from Odisha only. Future studies may consider SMEs from other Indian states or undertake cross-country comparative analysis for greater generalisability. The impact of ESG adoption on organisational performance may also be assessed over time. Future studies should look into mediating and moderating variables such as green innovation, organisational resilience, digital transformation, sustainable supply chain management, entrepreneurial orientation, green intellectual capital, firm size, ownership structure, industry type, managerial experience and access to sustainable finance. The conceptual framework may also be confirmed by comparative studies using Smart PLS, AMOS or CB-SEM. Future study might focus on the adoption of ESG in manufacturing, services, agriculture, healthcare and technology-based SMEs to develop context-based sustainability models. Such research would enrich ESG literature and provide theoretical and practical insights into sustainable organisational performance via ethical business practices.

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