

Investigating the Influence of Leadership on the Sustainable Performance of SMEs in Emerging Economies: Evidence from Bangladesh

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Abstract

This study investigates how leadership influences the sustainable performance of small and medium-sized enterprises (SMEs) in Bangladesh, focusing on the economic, social, and environmental dimensions of sustainability. Grounded in Dynamic Capabilities Theory, which explains how leaders sense opportunities, seize resources, and reconfigure organizational routines under constrained conditions, this study employed a cross-sectional survey and analyzed data using PLS-SEM (SmartPLS 4.1.0.8). The instrument comprised 16 reflective indicators across four latent constructs (leadership; economic, social, and environmental sustainability). After screening, 180 owner/manager responses were retained for analysis; reliability and validity (α , CR, AVE), discriminant validity (HTMT, Fornell–Larcker), and collinearity (outer/inner VIF) were assessed prior to testing structural paths with 5,000-sample bootstrapping. Results demonstrate that leadership has a positive and significant effect on economic, social, and environmental sustainability. Among these, the strongest influence is observed on social sustainability, followed by economic and environmental dimensions. These findings underscore the critical role of leadership in shaping triple bottom line outcomes within SMEs operating under resource constraints. The study is limited by its cross-sectional design and reliance on single-respondent survey data, which may constrain causal inferences. The findings provide actionable insights for SME managers and policymakers in emerging economies by demonstrating how effective leadership can drive sustainability practices, enhance resilience, and align SMEs with national development priorities and global sustainability goals. Rather than proposing a new theoretical model, this study extends the leadership–sustainability nexus into the underexplored context of SMEs in Bangladesh, contributing contextual empirical evidence and practical guidance for fostering sustainable growth in emerging economies.

Keywords: Leadership, Small and Medium-sized Enterprises (SMEs), Sustainable Performance, Emerging Economies

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1. Introduction

Small and medium-sized enterprises (SMEs) play a foundational role in global economies, accounting for about 90% of businesses and contributing over 50% of employment worldwide (World Bank, 2024). In Bangladesh, SMEs contribute roughly 25% of GDP and comprise approximately 7.9 million SMEs and micro-enterprises (ICAB, 2022), collectively employing around 24.5 million people, with men comprising the majority of the workforce (ICAB, 2022; Hossen & Uddin, 2024). These enterprises provide livelihoods for millions and remain central to employment generation outside agriculture, particularly in manufacturing and service sectors (Nakra, N., & Kashyap, V. 2025). Yet Bangladeshi SMEs typically operate with limited access to formal credit, weak institutional support, and limited managerial capacity, which makes firm-level leadership, rather than external institutional mechanism, the primary driver of strategic decision-making (Hossen & Uddin, 2024; LightCastle Partners, 2020). At the same time, growing pressures from economic uncertainty, climate change, and rising societal expectations mean that SMEs can no longer rely on short-term profitability alone (Hossen & Uddin, 2024); they must instead adopt a more comprehensive approach to sustainability that integrates economic resilience, social responsibility, and environmental stewardship (Pett, T. et al., 2025).

Leadership plays a decisive role in guiding organizational strategy, particularly in resource-constrained contexts where managerial discretion often substitutes for institutional support (Zaharuddin, Z. et al., 2024). In SMEs specifically, leaders exert a disproportionate influence on organizational direction and performance, since decision-making is less formalized and rests with a small number of owner-managers (Nakra, N., & Kashyap, V. 2025). This influence extends to sustainability adoption: leaders decide whether sustainable practices are embedded into the core of business operations or sidelined as peripheral activities (Pett, T. et al., 2025). Understanding this role remains important even though sustainability research has expanded considerably in recent years, because the way leadership matters differs markedly between large, professionally managed corporations and small, owner-led firms.

Despite this expanding discourse, the empirical literature on leadership and sustainable performance has developed mainly along two lines. One stream examines large, publicly listed firms in developed economies, where formal governance structures and abundant resources shape how leadership

translates into sustainability outcomes (Khaw et al., 2022). A second, smaller stream considers SMEs, but usually outside emerging-economy settings, or examines leadership's link to a single sustainability dimension, most often financial performance, rather than the full triple bottom line (Zhao, L. et al., 2023; Elkington, J., & Rowlands, I. H., 1999). What remains insufficiently examined is how leadership simultaneously shapes economic, social, and environmental outcomes within SMEs operating under the institutional voids, resource scarcity, and climate exposure characteristic of emerging economies. Bangladesh illustrates this gap clearly: it is among the most climate-vulnerable countries globally, depends heavily on SMEs for employment and inclusive growth, and offers an institutional environment markedly different from those in which most leadership–sustainability research has been conducted, yet empirical evidence from this setting remains scarce. Leadership–sustainability linkages in SMEs in emerging economies, and in Bangladesh specifically, therefore remain underexplored both conceptually and empirically.

The main objective of this study is to investigate the influence of leadership on the sustainable performance of SMEs in Bangladesh. The specific objectives of this study are outlined below:

- I. To assess how leadership affects the economic sustainability of SMEs
 - II. To evaluate the role of leadership in promoting social sustainability of SMEs
 - III. To examine the impact of leadership on environmental sustainability of SMEs.
- By doing so, this study contributes contextual evidence to the strategic management literature and offers practical insights for managers and policymakers. It is also consistent with SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 12 (Responsible Consumption and Production) by showing how leadership supports the economic, social, and environmental sustainability of SMEs in Bangladesh.

The remainder of this paper is organized as follows. The next section reviews the extant literature on leadership and sustainable performance, highlighting theoretical frameworks and empirical evidence. Section 3 outlines the methodology employed, followed by Section 4, which presents the results and the discussion. Section 5 concludes with key insights, contributions, limitations of the study, and avenues for future research.

2. Literature Review and Theoretical Underpinnings

This section reviews the literature on leadership and sustainable performance,

compares findings across contexts, and identifies where the SME and emerging-economy literature remains incomplete, before introducing the theoretical framework and hypotheses that guide this study.

Leadership is widely recognized as a critical determinant of organizational outcomes, shaping the strategies, values, and practices that influence firm performance (Khaw et al., 2022; Uddin, 2024). Within SMEs, leadership assumes an even more central role because flatter structures, personalized decision-making, and limited access to external resources leave fewer buffers between leaders' choices and firm outcomes (Pett, T. et al., 2025). Scholars have increasingly examined how leadership fosters sustainability, conceptualized as the integration of economic, social, and environmental concerns into business operations (Elkington, J., & Rowlands, I. H., 1999). However, as the following review shows, this literature has developed unevenly across the three sustainability dimensions and across firm types.

Economic sustainability refers to the ability of firms to generate consistent profitability, maintain financial resilience, and ensure long-term survival (Iqbal, Q. et al., 2020). Leadership has been linked to economic sustainability through strategic vision, financial decision-making, and the mobilization of limited resources (Burawat, P. 2019). Specifically, transformational leaders motivate employees to pursue efficiency and innovation, thereby enhancing competitiveness (Zaharuddin, Z. et al., 2024). In the context of SMEs, leadership can compensate for the absence of sophisticated governance mechanisms by making agile decisions that secure financial performance in volatile markets (Fatoki, O. 2021). Furthermore, empirical studies have shown that strong leadership positively influences SME profitability, growth, and market adaptation (Burawat, P. 2019). Taken together, these studies converge on a positive economic role for leadership, although most draw on large-firm or single-country samples, leaving open how consistently this relationship holds among SMEs operating under the financial constraints typical of emerging economies such as Bangladesh. By examining these relationships, we draw our first hypothesis.

H1: Leadership has a positive impact on the economically sustainable performance of SMEs.

Social sustainability emphasizes employee well-being, community development, and ethical stakeholder engagement (Nor-Aishah, H. et al., 2020). In this regard, leadership influences social sustainability through the establishment of values, organizational culture, and practices that prioritize fairness, inclusivity, and responsibility (Iqbal, Q., & Ahmad, N. H. 2021).

Moreover, studies show that leaders who demonstrate ethical and participative styles tend to foster higher employee satisfaction, lower turnover, and stronger stakeholder trust (Burawat, P. 2019). Additionally, in SMEs, where close-knit relationships with employees and communities are common, leadership is particularly decisive in shaping social outcomes (Pett, T. et al., 2025). For example, socially oriented leaders can enhance SMEs' reputation, attract talent, and secure legitimacy within local markets (Khaw et al., 2022). While these studies consistently report a positive leadership-social sustainability link, most were conducted in large organizations or in single-country settings outside South Asia, leaving the strength of this relationship in Bangladeshi SMEs largely untested. Stemming from this literature, we develop our second hypothesis.

H2: Leadership has a positive impact on the socially sustainable performance of SMEs.

Environmental sustainability relates to reducing ecological footprints, adopting eco-innovations, and ensuring resource efficiency (Fatoki, O. 2021). Studies demonstrate that leadership contributes to environmental outcomes by promoting green values, fostering innovation, and allocating resources toward environmentally friendly practices (Iqbal, Q., & Ahmad, N. H. 2021). For instance, transformational and visionary leaders are particularly effective in embedding environmental considerations into business models (Zhao, L. et al., 2023). Furthermore, evidence from emerging economies suggests that leadership directly drives SME engagement in waste reduction, energy efficiency, and compliance with environmental standards (Nakra, N., & Kashyap, V. 2025). Even so, evidence on this relationship remains thinner than for the economic and social dimensions, and much of it originates from contexts with stronger environmental regulation than Bangladesh, raising the question of whether leadership exerts the same influence where formal environmental enforcement is weak. Accordingly, we draw our third hypothesis.

H3: Leadership has a positive impact on the environmentally sustainable performance of SMEs.

Across these three streams, the literature consistently points to a positive relationship between leadership and sustainability, yet three limitations stand out. First, most studies examine large or publicly listed firms, where governance structures and resource slack differ substantially from SME conditions (Khaw et al., 2022). Second, although an increasing number of studies have examined leadership and sustainability in SMEs (Burawat, P. 2019; Nor-Aishah, H. et al., 2020; Fatoki, O. 2021), most evidence comes

from contexts outside Bangladesh, leaving Bangladeshi SMEs largely underrepresented despite the country's climate vulnerability and strong dependence on SMEs for employment. Third, few studies examine the three sustainability dimensions simultaneously within a single model, making it difficult to compare their relative importance or to determine whether leadership matters more for some dimensions than others. These unresolved issues motivate the present study's focus on SMEs in Bangladesh and its simultaneous treatment of economic, social, and environmental sustainability within one framework.

This study is grounded in Dynamic Capabilities Theory (DCT), which holds that firms achieve competitive advantage not merely through resource possession but through their ability to sense opportunities, seize them, and reconfigure resources and routines in response to changing conditions (Teece, 1997). DCT is particularly relevant here because SMEs in emerging economies rarely have the formal structures or dedicated departments needed to manage sustainability; instead, these capabilities are concentrated in the leader, who identifies emerging challenges, mobilizes scarce resources, and adapts organizational routines to respond effectively, often compensating for the absence of formal governance mechanisms commonly found in larger firms (Nor-Aishah et al., 2020; Hassan et al., 2021). This also helps explain why leadership's influence may differ across the three sustainability dimensions: sensing and seizing economic opportunities draws on capabilities that leaders exercise routinely, whereas improving environmental sustainability often requires additional resources, technology, and regulatory support that lie partly outside the leader's direct control.

Based on this literature and theoretical grounding, we propose the following conceptual framework (Figure 1).

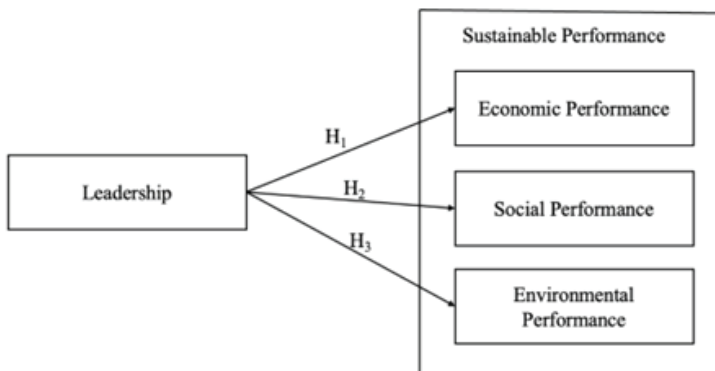


Figure 1. Conceptual Framework

Figure 1 illustrates the proposed conceptual framework, which positions leadership as a key determinant of sustainable performance in SMEs.

3. Methodology

This study adopted a quantitative, cross-sectional survey design. The research objectives required measuring the strength and direction of the relationships between leadership and multiple sustainability outcomes across a broad sample of SMEs at a single point in time. The study did not seek to examine changes within firms over time. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed as the analytical technique. PLS-SEM was chosen over covariance-based SEM because it is prediction-oriented, performs well with a moderate sample size, and is well suited to models with multiple reflective constructs, while also tolerating non-normal data more readily than covariance-based alternatives (Hair Jr et al. 2021). These properties make PLS-SEM appropriate for testing the theory-driven hypotheses proposed in this study. SmartPLS 4.1.0.8 was used for estimation because it offers an accessible, well-validated platform for bootstrapping, discriminant validity assessment, and predictive evaluation, all of which this study required.

Data were collected from SME owners and senior managers, who are directly involved in strategic decision-making and thus best positioned to evaluate leadership practices and sustainability outcomes. This respondent choice reflects the flatter structure of SMEs, where owners and senior managers, typically decide whether and how sustainability practices are pursued. Using purposive sampling across diverse sectors, a total of 200 valid responses were obtained. However, after collecting responses, 20 questionnaires were excluded from data analyses as they were partially filled or deemed misrepresented. So, data from 180 questionnaire surveys were analysed, which exceeded the recommended sample size based on both the 10-times rule and statistical power analysis (Hair Jr et al. 2021; Kock, N. 2018).

The measurement model comprised four reflective latent constructs: leadership, economic sustainability, social sustainability, and environmental sustainability. These constructs are measured using proxies from existing scholarship (Dey, P. K. et al., 2022), selected because they had already been validated in SME and sustainability research. All items used a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

To assess construct reliability and validity, we examined Cronbach's alpha,

composite reliability (CR), and average variance extracted (AVE), with recommended thresholds of $\alpha \geq 0.70$, $CR \geq 0.70$, and $AVE \geq 0.50$ (Fornell & Larcker, 1981). Discriminant validity was evaluated using both the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT), following Henseler, Ringle, and Sarstedt (2015). Collinearity at the indicator level was assessed using outer VIF values, while construct-level collinearity was checked using inner VIF values, with cut-offs set at 5.

The structural model was assessed using a bootstrapping procedure with 5,000 resamples to test the significance of hypothesized paths (Hair, J. F. et al., 2012). The model’s predictive power was examined through the coefficient of determination (R^2), where values of 0.25, 0.50, and 0.75 are interpreted as weak, moderate, and substantial, respectively (Chin, 1998). Additionally, we reported effect sizes (f^2) to assess the relative contribution of exogenous constructs, and predictive relevance (Q^2) using the blindfolding procedure, where $Q^2 > 0$ indicates predictive validity (Hair, J. F. et al., 2012). Model fit was further examined using the Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI) (Ullman, J. B., & Bentler, P. M. 2012). This multi-stage evaluation ensured that both the measurement and structural models met the requirements for reliability, validity, and predictive accuracy, thereby enabling robust testing of the proposed hypotheses.

4. Results

In the measurement model, we employed several robustness tests to ensure the reliability and validity of the constructs. The reliability and convergent validity of the constructs were assessed using Cronbach’s alpha, composite reliability, and average variance extracted (AVE) (Table 1).

Table 1. Construct Reliability and Validity

	Cronbach’s alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
ECS	0.937	0.943	0.952	0.799
ENS	0.793	0.830	0.877	0.705
OL	0.849	0.858	0.898	0.688
SS	0.833	0.842	0.888	0.666

As shown in Table 1, Cronbach’s alpha values ranged from 0.793 (ENS) to 0.937 (ECS), all above the recommended threshold of 0.70 (Nunnally & Bernstein, 1994). Similarly, composite reliability values (rho_c) were between 0.877 and 0.952, exceeding the 0.70 benchmark (Hair et al., 2012), thereby confirming strong internal consistency. AVE values ranged from

0.666 (SS) to 0.799 (ECS), surpassing the minimum requirement of 0.50 (Fornell & Larcker, 1981), establishing convergent validity.

Discriminant validity was examined through the HTMT ratio, the Fornell–Larcker criterion, and cross-loadings. As reported in Table 2, all HTMT values were well below the conservative threshold of 0.85 (Henseler, Ringle, & Sarstedt, 2015), suggesting no discriminant validity concerns.

Table 2. HTMT Matrix

	ECSF	ENSF	OL	SSF
ECS				
ENS	0.504			
OL	0.376	0.307		
SS	0.220	0.293	0.502	

Table 3. Fornell-Larcker Criterion

	ECSF	ENSF	OL	SSF
ECS	0.894			
ENS	0.434	0.839		
OL	0.344	0.265	0.830	
SS	0.200	0.245	0.428	0.816

The Fornell–Larcker criterion (Table 3) further confirmed that the square roots of AVE (diagonal values) were greater than the inter-construct correlations, indicating that each construct shared more variance with its indicators than with other constructs. Together, these results provide robust evidence of discriminant validity.

Collinearity was assessed through outer and inner VIF values (Tables 4 and 5). Outer VIF values ranged from 1.557 to 5.919, with most values falling below the cut-off of 5, except for two economic sustainability indicators (EC3 = 5.002; EC4 = 5.919), which marginally exceeded the threshold. Since their loadings and theoretical relevance were strong, they were retained. We acknowledge this as a potential limitation.

Table 4. Outer Model List

	VIF
EC1	3.186
EC2	3.919
EC3	5.002
EC4	5.919
EC5	2.695
EN1	1.903

EN2	1.557
EN3	1.706
OL1	1.826
OL2	2.350
OL3	1.920
OL4	1.768
SP1	1.742
SP2	1.959
SP3	1.773
SP4	1.707

Inner VIF values (Table 5) were all 1.000, indicating no collinearity among predictor constructs in the structural model. This confirms that the hypothesized relationships can be interpreted without multicollinearity bias.

Table 5. Inner Model List

	VIF
OL -> ECS	1.000
OL -> ENS	1.000
OL -> SS	1.000

The measurement model results indicate that the constructs used in this study exhibit strong reliability, convergent validity, and discriminant validity. These findings are consistent with prior leadership and sustainability studies that emphasize the need for robust measurement when analyzing multidimensional constructs such as economic, social, and environmental sustainability (Henseler, Ringle, & Sarstedt, 2015). The high levels of reliability and validity observed here suggest that subsequent hypothesis testing within the structural model is not compromised by measurement error. The discriminant validity results are particularly important in this context. Leadership, economic, social, and environmental sustainability are conceptually related constructs, and establishing their empirical distinctiveness strengthens the argument that leadership exerts differentiated effects across the triple bottom line rather than the constructs simply overlapping. The use of both HTMT and Fornell–Larcker criteria aligns with best practices in PLS-SEM reporting (Ringle, C. M. et al., 2020), providing robust support for discriminant validity and, by extension, for treating the three sustainability dimensions as separate outcomes worth modeling individually rather than as

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Although two indicators (EC3 and EC4) displayed slightly high VIF values, these were retained due to their theoretical importance in capturing economic sustainability. This is consistent with Hair et al. (2012), who note that VIF values between 5 and 10 are tolerable when justified by theoretical relevance. The absence of collinearity in the inner model further enhances confidence in the structural relationships to be tested. Overall, the measurement model is validated, allowing the study to proceed to the structural model analysis and hypothesis testing.

After validating the measurement model, the next step was to assess the structural model to test the proposed hypotheses. This involved examining the overall model fit as well as the significance and strength of the structural paths between leadership and the three dimensions of sustainable performance. The structural model is presented in Figure 2.

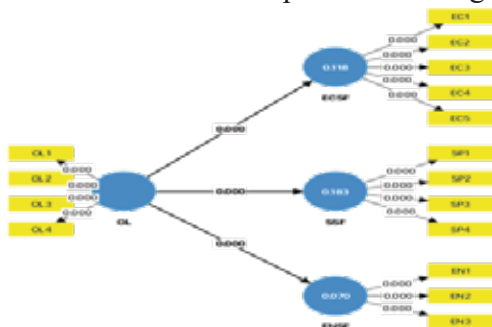


Figure 2. Structural Model

Figure 2 presents the estimated structural model, showing the path coefficients and R^2 values for each endogenous construct. The model depicts leadership as the single exogenous driver of all three sustainability dimensions, with the path to social sustainability appearing strongest, followed by economic and then environmental sustainability, mirroring the relative explanatory power reported below. This pattern suggests that leadership's influence is not uniform across the triple bottom line: it is systematically stronger where outcomes depend directly on the leader's day-to-day decisions and relationships, as with social sustainability, and weaker where outcomes depend on external enablers such as technology, financing, or regulation, as with environmental sustainability. This pattern is examined statistically below.

The overall model fit was evaluated using multiple indices (Table 6). The estimated SRMR was 0.107, slightly above the commonly recommended threshold of 0.08 (Mueller & Hancock, 2018), indicating a moderate model fit. The d_ULS (1.552) and d_G (0.264) values provide additional discrepancy measures between the empirical and model-implied correlation matrices, with lower values indicating better fit (Sarstedt, M., Ringle, C. M., & Hair, J. F. 2021). The estimated Chi-square value was 279.695, although this statistic is sensitive to sample size and is therefore interpreted cautiously in PLS-SEM. The Normed Fit Index ($NFI = 0.839$) indicates an acceptable level of model fit. Overall, although the global fit is moderate, PLS-SEM is primarily prediction-oriented. Consequently, greater emphasis is placed on measurement quality, structural relationships, and predictive validity than on global fit indices alone (Hair et al., 2012).

Table 6. Model Fit Summary

	Saturated model	Estimated model
SRMR	0.057	0.107
d_ULS	0.438	1.552
d_G	0.228	0.264
Chi-square	250.787	279.695
NFI	0.855	0.839

The structural paths were assessed using bootstrapping with 5,000 resamples. Table 7 reports the path coefficients, t-statistics, and significance levels.

Table 7. Path-coefficient

	Original sample (O)	Sample mean (M)	Std. deviation (STDEV)	T statistics ((O/STDEV))	P values
OL -> ECS	0.344	0.348	0.067	5.155	0.000
OL -> ENS	0.265	0.273	0.074	3.563	0.000
OL -> SS	0.428	0.435	0.059	7.290	0.000

The results indicate that organizational leadership (OL) has a positive and significant impact on all three sustainability dimensions. Specifically, leadership significantly influenced economic sustainability ($\beta = 0.344$, $t = 5.155$, $p < 0.001$), environmental sustainability ($\beta = 0.265$, $t = 3.563$, $p < 0.001$), and social sustainability ($\beta = 0.428$, $t = 7.290$, $p < 0.001$). Among the three dimensions, the strongest effect was observed on social sustainability, followed by economic and environmental sustainability.

The R^2 values of the endogenous constructs, displayed in Figure 2, show that leadership explained 11.8% of the variance in economic sustainability, 18.3% in social sustainability, and 7.0% in environmental sustainability. Following the guidelines of Chin (1998), these values indicate weak to moderate explanatory power. This is plausible because leadership is modeled as the sole exogenous construct. Economic, social, and environmental sustainability in SMEs are also influenced by factors such as access to finance, market conditions, government policy, and technology, which are not included in this direct-effects model. The R^2 values are therefore noteworthy rather than disappointing, as they suggest that leadership alone accounts for a meaningful share of variance in each dimension, particularly social sustainability. The findings provide empirical support for the hypothesized relationships between leadership and the triple bottom line of sustainability in SMEs, while also indicating room for future models that incorporate additional predictors. First, the positive impact of leadership on economic sustainability aligns with the resource-based and dynamic capabilities perspectives, which argue that leaders play a central role in mobilizing scarce resources and shaping strategies that foster financial resilience (Barney, J. B. 2001; Teece, 1997). This may reflect that economic outcomes, such as revenue growth and cost control, are the most immediate and closely monitored concerns for SME owner-managers, who typically make pricing, sourcing, and investment decisions personally rather than delegating them. This is particularly relevant in the context of Bangladeshi SMEs, many of which operate under financial constraints and institutional voids, where leadership-driven decision-making

can compensate for weak external support structures (Zhao, L. et al., 2023). Practically, this suggests that strengthening owner-managers' financial and strategic decision-making skills, through targeted training or advisory support, could support SME economic resilience.

Second, the significant relationship between leadership and social sustainability, the strongest of the three paths, highlights the importance of leaders in fostering employee well-being, fair labor practices, and community engagement (Hassan, H. et al., 2021), consistent with prior studies emphasizing that SMEs, due to their close social embeddedness, are more likely to translate leadership orientations into socially responsible practices (Nor-Aishah, H. et al., 2020). Social sustainability may show the strongest effect because it depends primarily on interpersonal behavior, such as how leaders treat employees and engage with the surrounding community, actions that fall largely within a leader's control and require little external investment or technology. The relatively higher effect size also suggests that Bangladeshi SME leaders prioritize social concerns, possibly strengthen legitimacy and reputation in their immediate communities, where reputational capital is closely tied to survival. This points to social sustainability as a comparatively low-cost entry point for resource-constrained SMEs beginning a broader sustainability journey.

Third, although leadership also significantly influenced environmental sustainability, the explained variance was the lowest of the three dimensions. This finding mirrors earlier work noting that environmental sustainability initiatives in SMEs, particularly in emerging economies, are often limited by financial and technological barriers (Iqbal, Q. et al., 2020). Unlike economic and social outcomes, environmental improvements, such as adopting cleaner technologies, managing waste, or improving energy efficiency, typically require upfront capital, technical know-how, and external infrastructure that individual leaders cannot supply through decision-making alone (Sajjad, A., Eweje, G., & Raziq, M. M. 2024). Leaders may recognize the importance of environmental practices but face genuine implementation constraints in the absence of external incentives or regulatory enforcement (Zaharuddin, Z. et al., 2024). This result underscores the need for policy support, such as green financing schemes or industry partnerships, to complement leadership efforts and strengthen SME leaders' capacity to pursue environmental goals.

Overall, leadership emerges as an important driver of SME sustainability, although its influence varies across dimensions. These findings are consistent

with prior studies in emerging-economy SMEs reporting positive but uneven effects across sustainability dimensions (Nor-Aishah et al., 2020; Hassan et al., 2021). the wider gap between the social and environmental effects observed here, however, may reflect Bangladesh's comparatively weaker environmental regulatory environment relative to other emerging economies studied previously (Iqbal et al., 2020). For SME owner-managers, the findings highlight leadership development as a practical tool for advancing sustainability; for policymakers, they suggest that leadership should be complemented by financial, technical, and regulatory support to strengthen environmental outcomes (Kurucz, E. C. et al., 2017). Taken together, the findings suggest that leadership alone is insufficient to achieve balanced sustainability outcomes in resource-constrained SMEs, particularly for environmental sustainability, without complementary institutional and policy support.

5. Conclusion

This study set out to examine the influence of leadership on the sustainable performance of SMEs in Bangladesh, focusing on the economic, social, and environmental dimensions of sustainability. Using PLS-SEM, it tested and confirmed all three hypotheses, demonstrating that leadership contributes significantly to SME sustainability across all dimensions, albeit with varying effect strengths: social sustainability emerged as the most strongly influenced dimension, followed by economic and environmental sustainability.

This study contributes to the literature in several ways. Theoretically, it extends leadership theory and the dynamic capabilities perspective to the relatively underexplored context in an emerging economy, offering contextual empirical evidence rather than a new theoretical model. By empirically examining leadership's distinct effects on the triple bottom line within a direct-effects framework, it enriches existing understanding of how leadership shapes sustainability outcomes under resource-constrained conditions. Practically, the findings offer guidance to SME leaders in Bangladesh, highlighting the value of sustainability-oriented leadership practices for enhancing competitiveness, legitimacy, and resilience. At the policy level, the study underscores the need for targeted support mechanisms, particularly for environmental initiatives, where leadership influence alone is insufficient without complementary financial and regulatory support.

Nevertheless, this study has limitations. First, its cross-sectional design limits

the ability to infer causal relationships between leadership and sustainability performance. It is equally plausible that firms already performing well on sustainability attract or retain more capable leaders, so causal direction cannot be established with certainty. Second, data were collected solely from SME leaders, which may introduce common method bias despite the statistical remedies applied, and may also reflect some self-serving bias in how leaders assess their own influence on sustainability outcomes. Third, the focus on SMEs in Bangladesh may constrain the generalizability of the findings to other emerging or developed economies with different institutional and regulatory environments.

Future research could address these limitations by adopting longitudinal designs to capture the dynamic nature of leadership and sustainability practices over time and to clarify the direction of causality. Incorporating multiple stakeholders, such as employees, customers, and community representatives, would provide a more holistic view of sustainability outcomes and reduce reliance on single-respondent data. Moreover, comparative studies across countries or regions could reveal how institutional contexts shape the leadership–sustainability nexus. Finally, future work could integrate additional organizational factors, such as innovation capacity, governance structures, and digital transformation, that may interact with leadership to influence SME sustainability, and could examine whether the direct effects identified here operate through intervening mechanisms.

Overall, this study reaffirms leadership as an important driver of sustainable performance in SMEs, particularly in resource-constrained contexts such as Bangladesh. At the same time, leadership alone cannot overcome structural and institutional barriers, particularly in advancing environmental sustainability. Strengthening leadership capacity, alongside policy and institutional support, therefore appears essential if SMEs are to more fully realize their contribution to national and global sustainability goals.

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