

Innovative Leadership and Sustainability Practices in Egyptian SMEs: A Strategic Pathway to Performance within Egypt Vision 2030

Ahmed Omar

Arab Academy for Science, Technology and Maritime Transport
Graduate School of Business (AASTMT), Cairo, Egypt
ahmedomar.vet@gmail.com

Dr. Sahar Badawy

The British University in Egypt (BUE)
Cairo, Egypt
sahar.bafawy@bue.edu.eg

Abstract

Small and medium-sized enterprises (SMEs) constitute the backbone of Egypt's economy, representing over 95% of private sector firms and contributing significantly to employment and GDP. However, their growth is constrained by limited resources, outdated practices, and weak institutional support. This study investigates the strategic role of innovative leadership in enhancing SME performance through the mediating effect of sustainability practices, within the framework of Egypt Vision 2030. Grounded in the Resource-Based View (RBV) and the Triple Bottom Line (TBL) approach, the research employs Structural Equation Modelling (SEM) to analyze survey data from 420 SMEs across multiple sectors and regions. Results reveal that innovative leadership significantly influences sustainability adoption ($\beta = 0.61, p < 0.001$), which in turn strongly enhances firm performance ($\beta = 0.52, p < 0.001$). Mediation analysis confirms that sustainability partially mediates the leadership–performance nexus, underscoring its strategic role as a mechanism of value creation rather than a peripheral outcome. The findings highlight that SMEs embracing sustainability not only achieve operational efficiency and competitive advantage but also contribute meaningfully to Egypt's sustainable development agenda. The study provides theoretical insights into the integration of leadership and sustainability in emerging economies and offers practical recommendations for SME managers, policymakers, and development agencies aiming to foster resilient, future-ready enterprises aligned with national goals.

Keywords: Innovative leadership; sustainability practices; SME performance; Egypt Vision 2030; Resource-Based View (RBV); Triple Bottom Line (TBL); structural equation modeling; emerging economies.

Introduction

Small and medium-sized enterprises (SMEs) are globally acknowledged as vital contributors to socio-economic development, innovation, and employment generation. In emerging economies, their role becomes even more pronounced due to their capacity to absorb labor, stimulate local supply chains, and offer entrepreneurial entry points for underrepresented populations. In Egypt, SMEs represent more than 95% of private-sector firms, account for approximately 80% of job opportunities, and contribute over 40% to GDP (MSMEDA, 2023). Yet despite this impressive scale, the sector remains burdened by systemic limitations such as limited access to capital, outdated operational practices, bureaucratic inefficiencies, informal business models, and resistance to strategic modernization.

The growing demand for sustainable economic systems - propelled by global frameworks such as the United Nations Sustainable Development Goals (SDGs) and localized strategies such as Egypt Vision 2030 - adds new pressure and opportunity to the role of SMEs. Sustainability is no longer seen as a luxury reserved for multinational corporations; instead, it is now a prerequisite for long-term resilience, competitive-

* This article was submitted in August 2025, and accepted for publication in October 2025. Published Online in October 2025.

DOI: 10.21608/aja.2025.415676.1926

ness, and legitimacy - even for the smallest enterprises. Sustainability, in this context, is a multifaceted construct encompassing environmental, social, and economic pillars, captured by the Triple Bottom Line (TBL) (Elkington, 1997). Egyptian SMEs, especially those operating in vulnerable regions, must not only adopt greener technologies but also enhance social equity and economic inclusivity - dimensions aligned with the state's development objectives (Vision 2030 Egypt, 2018; UNDP, 2022).

Despite the strategic significance of sustainability for SMEs, the path to its implementation is neither obvious nor uniformly defined. Many SMEs lack the internal capabilities, awareness, or strategic leadership required to embrace and institutionalize sustainability - particularly in resource-constrained environments marked by weak knowledge infrastructure, uneven enforcement, and limited engagement with policy incentives. This raises a critical question: which internal organizational capabilities can catalyze sustainability practices under such conditions?

One such capability is innovative leadership. While defined variably, it generally refers to leadership that promotes vision, experimentation, empowerment, adaptability, and cross-functional collaboration (Mumford, Scott, Gaddis, & Strange, 2002; Albloushi, Evans & Levermore, 2021). Innovative leaders do not merely manage operations; they inspire change, support calculated risk-taking and create learning environments that foster resilience and continuous improvement. In SMEs, where resources are scarce and agility is essential, innovative leadership can decisively shape strategic direction and embed sustainability into organizational routines and culture.

Nevertheless, the literature has not sufficiently unpacked how innovative leadership translates into firm performance in non-Western, emerging-market contexts. Prior studies often examine direct links between leadership and performance, or between sustainability and outcomes, but fewer test the mediating role of sustainability and fewer still ground the inquiry in a strategic framework such as the Resource-Based View (RBV) and its natural-resource-based extension (Barney, 1991; Hart, 1995). To address this gap, the present study proposes and empirically tests a mediation model in which sustainability practices mediate the relationship between innovative leadership and SME performance, using covariance-based SEM on data from 420 Egyptian SMEs across sectors and governorates.

The research holds both academic and practical significance. Academically, it contributes a theoretically informed, empirically tested model tailored to the Egyptian SME context, clarifying how intangible leadership capabilities drive outcomes via sustainability routines. Practically, it informs policymakers, SME development agencies, and owners about strategic pathways through which SMEs can improve competitiveness while aligning with national sustainable development goals (Porter & Kramer, 2011; OECD, 2019; IFC, 2021).

Study Problem

Despite their macro-importance, Egyptian SMEs face structural and capability gaps that impede systematic adoption of sustainability practices. The absence of well-specified internal mechanisms - particularly leadership behaviors that mobilize people and processes - limits firms' ability to routinize environmental and social practices alongside economic goals. This capability gap hinders progress toward Vision 2030 targets and obscures the mechanism through which leadership can translate into improved performance under resource constraints (MSMEDA, 2023; Vision 2030 Egypt, 2018; UNDP, 2022).

Study Objectives

- 1- Develop a theoretically grounded model linking innovative leadership to SME performance via sustainability practices (RBV/NRBV + TBL).
- 2- Empirically test direct and indirect (mediated) effects among these constructs using covariance-based SEM on Egyptian SMEs.

- 3- Provide evidence-based implications for managers and policymakers to accelerate sustainability adoption without imposing prohibitive costs.

Study Hypotheses

- **H1.** It is expected that innovative leadership has a significant positive effect on sustainability practices in Egyptian SMEs. Leadership that emphasizes vision, empowerment, and experimentation is associated with stronger innovation and change adoption in SMEs; such behaviors plausibly enable the uptake of TBL-consistent practices (Mumford et al., 2002; Albloushi et al., 2021; Klewitz & Hansen, 2014).
- **H2.** It is expected that sustainability practices have a significant positive effect on SME performance. The TBL and shared-value perspectives link environmental and social improvements to efficiency gains, risk reduction, reputation, and market opportunities (Elkington, 1997; Porter & Kramer, 2011).
- **H3.** It is expected that innovative leadership has a significant positive effect on SME performance. Under the RBV, leadership capabilities constitute valuable, rare, and hard-to-imitate resources that enhance organizational outcomes, especially in turbulent contexts (Barney, 1991; Bashir & Verma, 2017).
- **H4. (Mediation)** It is expected that sustainability practices mediate the relationship between innovative leadership and SME performance. Integrating RBV/NRBV with TBL implies that leadership's performance effects are transmitted through the configuration of sustainability routines (Hart, 1995; Klewitz & Hansen, 2014; Porter & Kramer, 2011).

Literature Review

Innovative Leadership in SMEs

Innovative leadership emphasizes vision, creativity, and risk-tolerant cultures that foster innovative ideas and proactive problem-solving (Mumford et al., 2002; Albloushi et al., 2021). Unlike transactional leadership, it prioritizes change orientation and emotional intelligence. In SMEs - often flat, resource-constrained, and reliant on founders - such leadership is critical to driving transformation by enabling experimentation and broad employee engagement (Chen, 2007; Suriyankietkaew & Avery, 2016). Evidence links innovative leadership to innovation, adaptability, and customer outcomes (Uhl-Bien et al., 2007; Darvishmotevali et al., 2022), yet its role in enabling sustainability in emerging economies like Egypt remains underexplored.

Sustainability in SMEs: A Triple Bottom Line Perspective

Sustainability, framed by Elkington's (1997) Triple Bottom Line (TBL), integrates economic, social, and environmental objectives. While regulatory and market forces drive SME sustainability in developed economies, firms in developing contexts face barriers such as cost concerns and limited capabilities (Jamali et al., 2017). Nonetheless, constraints can spark innovation and foster community-driven social sustainability (Dixon-Fowler et al., 2013). In Egypt, aligning SME practices with Egypt Vision 2030 remains limited, despite evidence linking sustainability to efficiency, reputation, and stakeholder trust (Klewitz & Hansen, 2014; Hörisch et al., 2015).

SME Performance

SME performance spans financial and non-financial indicators, including resilience and strategic adaptability (Wiklund & Shepherd, 2005). This is crucial in Egypt's volatile context (Abdelkafi et al., 2021). Sustainability can enhance performance by reducing costs and improving loyalty (Porter & Kramer, 2011). Thus, this study adopts a holistic performance view, integrating business metrics with sustainability outcomes.

Linking Leadership, Sustainability, and Performance

Although leadership and performance are well studied, their integration with sustainability is rare. Leadership can indirectly enhance performance by embedding sustainability (Suriyankietkaew, 2016; Bashir & Verma, 2017). Absent this link, leadership may not yield lasting results (Wang et al., 2024). In Egypt, SME leaders often act as de facto sustainability champions, making their role pivotal. This study posits sustainability as a mediating mechanism between leadership and performance.

Theoretical Framework: RBV-TBL Integration

Grounded in the Resource-Based View (Barney, 1991), this study conceptualizes innovative leadership as a VRIN resource that activates sustainability (TBL), which in turn drives performance. This integration connects internal capabilities (RBV) with societal imperatives (TBL), suiting SMEs in emerging economies. The proposed model links innovative leadership → sustainability → performance.

Literature Gaps and Contribution

Key gaps persist: (1) geographic - scarcity of MENA evidence; (2) conceptual - leadership, sustainability, and performance rarely studied in one model; (3) methodological - few uses SEM to test mediation; (4) policy relevance - weak links to Egypt Vision 2030. This study addresses these gaps by empirically testing sustainability as a mediator between leadership and performance in Egyptian SMEs, offering a policy-aligned roadmap positioning sustainability as a competitive asset.

Research Methodology

Research Philosophy and Approach

This study adopts a positive research paradigm supported by a deductive approach, appropriate for testing theoretically grounded hypotheses using quantitative data. The goal is not only to explore relationships between variables but to validate a conceptual framework based on existing theories - the Resource-Based View (RBV) and the Triple Bottom Line (TBL). A positivist stance supports objectivity, generalizability, and replicability, aligning with the study's goal of deriving policy and managerial implications from empirical findings (Creswell, 2014).

While qualitative research may offer depth into SME practices, it lacks the capacity to generalize across Egypt's highly heterogeneous SME landscape. A quantitative survey approach was therefore selected to collect standardized responses from a large sample across different regions and sectors, enabling statistical rigor and structural model validation.

Research Design

The research employs a cross-sectional, explanatory design using a structured questionnaire administered to SME decision-makers in Egypt. This design facilitates the examination of relationships among multiple latent constructs - innovative leadership, sustainability practices, and SME performance - at a single point in time, which is both cost-effective and appropriate for theory testing (Sekaran & Bougie, 2016).

While a longitudinal design would strengthen causal inference, practical constraints - such as limited time and resource availability - necessitated a cross-sectional approach. Nevertheless, mediation analysis within Structural Equation Modeling (SEM) allows for a strong assessment of indirect effects, improving theoretical insights even within this limitation.

Target Population and Sampling Strategy

The study targets Egyptian SMEs operating across diverse economic sectors, including manufacturing, services, trade, and agriculture. SMEs are defined according to Egypt's Ministry of Trade and Industry criteria: firms with 10–200 employees and annual revenues between EGP 1 million and EGP 200 million.

A multi-stage stratified random sampling technique was employed. First, geographical stratification ensured regional diversity across Cairo, Alexandria, Delta, Upper Egypt, and Canal zones. Second, sectoral stratification was applied to ensure representation across manufacturing, services, and retail. Finally, random sampling within each stratum was conducted using enterprise databases provided by MSMEDA and local chambers of commerce.

A total of 650 questionnaires were distributed between April and June 2024, of which 420 valid responses were retained for analysis, yielding a response rate of 64.6%. Respondents were primarily SME owners, general managers, or directors with strategic decision-making authority. This sample size exceeds the minimum required for SEM analysis, ensuring reliable parameter estimates (Hair et al., 2019).

Instrument Development and Measures

The research instrument: A structured questionnaire was developed by adapting validated scales from prior studies, ensuring content validity and contextual relevance. All items used a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The constructs and sample items include:

- **Innovative Leadership (IL):** eight items adapted from Albloushi et al. (2021) and Mumford et al. (2002). Sample item: "Our leadership promotes experimentation and calculated risk-taking."
- **Sustainability Practices (SP):** nine items reflecting environmental, social, and economic sustainability, adapted from Klewitz & Hansen (2014) and Elkington (1997). Sample item: "Our enterprise actively minimizes waste and emissions."
- **SME Performance (FP):** seven items reflecting financial and non-financial outcomes, adapted from Wiklund & Shepherd (2005) and Porter & Kramer (2011). Sample item: "Our firm's customer satisfaction has improved significantly over the past year".

The initial questionnaire was developed in English and translated into Arabic using back-translation to ensure conceptual equivalence. A panel of five academic and industry experts reviewed the instrument for face and content validity, recommending minor changes in phrasing and cultural alignment.

A pilot test with 30 SME managers resulted in a Cronbach's alpha above 0.80 for each construct, confirming internal consistency and justifying full-scale data collection.

Ethical Considerations

Ethical clearance was obtained from the Research Ethics Committee of the Arab Academy for Science, Technology & Maritime Transport (AASTMT). Respondents were informed about the voluntary nature of participation, anonymity, data confidentiality, and the academic purpose of the study. Written informed consent was obtained before participation. No sensitive or personally identifiable information was collected.

Data Analysis Technique: Structural Equation Modeling (SEM)

Data were analyzed using AMOS 24 software for Covariance-Based Structural Equation Modeling (CB-SEM), which is suitable for theory testing and confirmation of latent constructs (Hair et al., 2019). SEM was selected due to its ability to test both measurement models (i.e., construct validity and reliability) and structural models (i.e., hypothesis testing and mediation).

Before SEM analysis, data were screened for missing values, normality, outliers, and multicollinearity. Less than 2% of values were missing and were replaced using mean imputation. Skewness and kurtosis values were within acceptable limits (± 1), and variance inflation factors (VIF) values were below 3, indicating no multicollinearity concerns.

The analysis proceeded in two stages:

- 1- **Confirmatory Factor Analysis (CFA):** To assess the validity and reliability of the measurement model. This includes evaluating composite reliability (CR), average variance extracted (AVE), and discriminant validity using Fornell-Larcker criteria.

- 2- **Structural Model Testing:** Hypotheses were tested using path coefficients and fit indices such as χ^2/df , RMSEA, CFI, TLI, and SRMR. Bootstrapping (5,000 samples) was used to assess the significance of indirect effects in the mediation model.

Hypothesis Development

Based on the literature review and theoretical framework, the following hypotheses were developed and tested:

- **H1:** It is expected that innovative leadership has a significant positive effect on sustainability practices in Egyptian SMEs.
- **H2:** It is expected that sustainability practices have a significant positive effect on SME performance.
- **H3:** It is expected that innovative leadership has a significant positive effect on SME performance.
- **H4:** It is expected that sustainability practices mediate the relationship between innovative leadership and SME performance.

These hypotheses were structured into a mediation model where sustainability serves as the intermediary variable linking leadership and performance. This model aligns with both RBV (which emphasizes internal capabilities like leadership) and TBL (which situates sustainability as a central strategic axis).

Results

Sample Characteristics

The final dataset comprised responses from 420 SMEs located across diverse Egyptian governorates. The demographic profile revealed a broad representation across industries: manufacturing (32.4%), services (28.1%), trade (24.3%), and agriculture (15.2%). Geographically, Cairo and Giza accounted for 37% of the sample, followed by Alexandria (15%), Upper Egypt (21%), and Delta and Canal regions (27%).

Most firms were privately owned (86%), with the remaining structured as partnerships or family businesses. The average number of employees per SME was 46, and the mean operational age of the firm was 11.2 years. Respondents primarily held senior decision-making roles, with 74% identifying as general managers, founders, or owners. This confirms the appropriateness of the sample for strategic-level analysis.

Descriptive Statistics and Normality

Initial descriptive analysis showed moderate to high mean scores across all constructs, suggesting a positive orientation toward innovative leadership and sustainability:

- Innovative Leadership (M = 3.81, SD = 0.62)
- SME Performance (M = 3.89, SD = 0.59)
- Sustainability Practices (M = 3.74, SD = 0.66)

Skewness and kurtosis statistics for all items were within ± 1 , confirming normality and supporting the assumptions for parametric SEM analysis.

Measurement Model: Confirmatory Factor Analysis (CFA)

CFA was conducted to assess the measurement model's validity. All factors loading exceeded the minimum threshold of 0.60 (Hair et al., 2019), with most items loading above 0.70. Table 1 summarizes the standardized factor loadings, composite reliability (CR), and average variance extracted (AVE):

Discriminant validity was confirmed using Fornell and Larcker's (1981) criteria. The square roots of AVEs were greater than inter-construct correlations, indicating good construct separation.

Table 1: Confirmatory Factor Analysis (CFA)

Construct	CR	AVE	Cronbach's Alpha
Innovative Leadership	0.912	0.637	0.895
Sustainability Practices	0.927	0.655	0.903
SME Performance	0.906	0.624	0.887

Structural Model Fit

The structural model was evaluated using the following fit indices:

- Chi-square/df = 2.11
- TLI = 0.953
- RMSEA = 0.049 (acceptable if ≤ 0.08)
- SRMR = 0.042
- CFI = 0.961

These values indicate an excellent model fit, supporting the appropriateness of the hypothesized model for interpretation.

Hypothesis Testing

Path analysis results provided support for all hypothesized relationships:

- H1: Innovative Leadership \rightarrow Sustainability Practices ($\beta = 0.61$, $p < 0.001$)
- H2: Sustainability Practices \rightarrow SME Performance ($\beta = 0.52$, $p < 0.001$)
- H3: Innovative Leadership \rightarrow SME Performance ($\beta = 0.24$, $p < 0.01$)

The direct effect of innovative leadership on SME performance was significant, but notably weaker than its indirect effect through sustainability practices.

Mediation Analysis

To test the mediation effect (H4), the bootstrapping method (5,000 samples) was employed. The indirect effect of innovative leadership on performance through sustainability was significant ($\beta = 0.32$, $p < 0.001$, 95% CI: 0.24 to 0.41), confirming partial mediation.

This finding aligns with the theoretical model: while innovative leadership directly impacts firm performance, its influence is more potent when channeled through sustainability practices. It highlights sustainability as a key strategic mediator - not merely an outcome but a mechanism of value creation.

Additional Analysis: Sectoral and Regional Differences

Exploratory multi-group SEM was conducted to assess model invariance across sectors and regions. Results suggest that while the structural paths remained consistent, the strength of relationships varied:

- In the manufacturing sector, the path from leadership to sustainability was particularly strong ($\beta = 0.68$).
- In Upper Egypt, sustainability had a stronger effect on performance ($\beta = 0.58$), likely due to regional development initiatives.

These variations suggest contextual sensitivity and underline the importance of localized policy support.

Summary of Key Findings

- The empirical model fits the data well and validates all proposed hypotheses.
- Innovative leadership significantly influences both sustainability practices and performance.
- Sustainability serves as a partial mediator, amplifying the effect of leadership on performance.
- Variations across sectors and regions emphasize the need for customized SME development strategies in Egypt.
- These results provide a robust empirical foundation for theoretical interpretation and practical implications, which are discussed in the next section.

Discussion

Interpreting the Leadership-Sustainability-Performance Nexus

The findings of this study offer compelling support for the theoretical assertion that innovative leadership plays a pivotal role in shaping the sustainability behavior and strategic outcomes of SMEs in

emerging markets like Egypt. Consistent with the Resource-Based View (RBV), innovative leadership emerges as a critical intangible resource - characterized by vision, risk-taking, and empowerment - that enables firms to adapt and compete effectively in uncertain environments. More importantly, the mediation analysis confirms that the real strategic value of leadership is realized when it activates sustainability practices.

The strong relationship between innovative leadership and sustainability ($\beta = 0.61$) suggests that leadership behaviors directly inform how SMEs frame and implement sustainability. This reinforces previous findings in different contexts (e.g., Suriyankietkaew, 2016; Bashir & Verma, 2017) but adds a unique contribution by quantifying this link within Egypt's distinctive institutional and socio-economic environment. SME leaders in Egypt, often acting as founders or sole proprietors, are in a unique position to shape organizational values and practices. Their commitment to innovation correlates with pro-sustainability action, especially in areas such as waste reduction, employee development, and community engagement.

The relationship between sustainability and performance ($\beta = 0.52$) provides strong evidence that embedding sustainability into business operations can deliver tangible performance benefits. This aligns with the Triple Bottom Line (TBL) logic, where social and environmental investments reinforce financial outcomes by enhancing trust, efficiency, and brand equity. In Egypt's increasingly competitive and resource-constrained market, these sustainability outcomes serve as levers of differentiation and long-term viability.

Theoretical Contributions

This study extends current literature in several important ways. First, by integrating RBV and TBL, it bridges the gap between strategic internal capabilities and externally oriented performance criteria. Most prior SME studies in the MENA region treat these domains separately. The present research shows that innovative leadership does not only act directly on performance but shapes how firms deploy resources toward sustainability, which then mediates performance.

Second, this study advances leadership theory in SMEs by contextualizing it within sustainability-oriented business models. While leadership studies have predominantly focused on transformational or transactional styles, the construct of innovative leadership proves particularly relevant in SME contexts, where flexibility and responsiveness are paramount. It also illustrates how leadership is not static; rather, it is dynamically intertwined with firm practices and contextual imperatives.

Third, the study introduces a robust empirical model that incorporates sectoral and regional differences, offering evidence that leadership-sustainability dynamics are not uniform. This suggests the need for a contingency view that considers local development dynamics and policy frameworks.

Practical Implications for SMEs

The findings provide actionable insights for SME owners and managers in Egypt. First, they highlight the strategic value of adopting an innovative leadership posture - encouraging experimentation, collaboration, and long-term vision. Rather than viewing sustainability as a regulatory burden or marketing tactic, SMEs should embed it as a strategic tool for performance improvement.

Second, SMEs should invest in building internal sustainability capacity. This includes establishing sustainability metrics, engaging employees in environmental and social initiatives, and aligning business strategies with national frameworks such as Egypt Vision 2030. These investments not only improve operational efficiency but also enhance stakeholder credibility.

Third, the mediating role of sustainability emphasizes the need for integrated leadership and sustainability training. Development agencies, NGOs, and SME support centers should offer capacity-building programs that equip leaders with the tools to embed sustainability into core business processes.

Policy Implications

At the policy level, the findings support stronger alignment between SME development programs and sustainability goals. The Ministry of Trade and Industry, in collaboration with MSMEDA and the Egyptian Environmental Affairs Agency, should:

- Provide financial incentives (e.g., green loans, tax breaks) for sustainability adoption among SMEs.
- Integrate sustainability metrics into national SME competitiveness assessments.
- Encourage cross-sectoral partnerships between SMEs and sustainability-focused NGOs or research institutions.

Moreover, the regional variations identified in the data underscore the need for localized policy approaches. For example, SMEs in Upper Egypt, where sustainability was found to have a stronger influence on performance, may benefit from targeted environmental grants or technical assistance tailored to local needs.

Implications for Development Agencies and Donors

International organizations and development partners operating in Egypt (e.g., UNDP, IFC, EU-funded projects) can leverage these findings to design SME interventions that fuse sustainability and leadership development. Programs that incentivize leadership transformation toward innovation and sustainability integration could accelerate progress toward Sustainable Development Goals (SDGs) and national objectives alike.

Donor-funded projects should also support the creation of knowledge-sharing platforms, where SME leaders can exchange best practices in sustainability, innovation, and growth. These platforms can reduce fragmentation and foster a culture of continuous learning.

Limitations and Future Research

While the study offers robust findings, several limitations should be acknowledged. First, the cross-sectional design restricts causal inference. Longitudinal studies are needed to examine how leadership and sustainability evolve over time and how their relationship to performance may shift in response to external shocks (e.g., inflation, climate risks).

Second, the study relies on self-reported data, which may be influenced by social desirability or respondent bias. Triangulation with objective performance data or sustainability audits would strengthen future research.

Third, the sample, while broad, may not capture informal SMEs or those operating outside institutional networks. Future research could explore the role of informal leadership or indigenous sustainability practices in Egypt's underrepresented regions.

Finally, while the study focuses on SMEs, comparative analysis with large enterprises could provide a richer understanding of how firm size moderates the leadership–sustainability–performance nexus.

Conclusion

This section highlights that sustainability is not merely an aspirational goal but a strategic pathway to performance - especially when activated by innovative leadership. For SMEs in Egypt, where developmental challenges intersect with opportunities for green transformation, leadership is the catalyst for change. By embedding sustainability into their strategic core, SMEs can drive not only growth but also societal value, fully aligning with the national vision for sustainable and inclusive development.

Strategic Recommendations

The empirical findings of this study offer actionable insights for multiple stakeholder groups - SME owners, policy makers, financial institutions, development agencies, and academia. Based on the strength of the relationships identified between innovative leadership, sustainability practices, and performance outcomes, the following strategic recommendations are proposed to accelerate the transformation of Egypt's SME sector in alignment with Egypt Vision 2030.

For SME Owners and Leaders

- 1- **Embed Sustainability into Business Models:** SME leaders must go beyond treating sustainability as a compliance measure. Instead, it should be embedded in their business models as a core value

driver. This includes implementing eco-efficient operations, fair labor policies, and ethical supply chains that not only reduce costs but also enhance brand trust and access to new markets.

- 2- **Cultivate Innovative Culture:** Leaders should establish a workplace culture that encourages experimentation, continuous learning, and participatory decision-making. Innovation must be nurtured not only in product development but also in internal operations, marketing, customer engagement, and supply chain design.
- 3- **Formalize Leadership Development:** Many SMEs operate informally and are often led by founders without formal management training. Structured leadership development programs, including short courses on sustainable leadership, digital transformation, and strategic planning, can enhance their ability to steer growth.
- 4- **Use Sustainability as a Strategic Differentiator:** SMEs that integrate sustainability are more attractive to young talent, international partners, and socially responsible investors. Leaders should publicize their sustainability efforts and achievements in grant applications, B2B partnerships, and customer engagement campaigns.

For Policymakers and Government Entities

- 1- **Institutionalize Sustainability in SME Legislation:** The Ministry of Trade and Industry, in partnership with MSMEDA and the Ministry of Environment, should revise SME frameworks to explicitly include sustainability benchmarks - such as energy efficiency, local employment ratios, and community investment.
- 2- **Create Incentives for Sustainable Innovation:** A national program for “Green SME Innovation Grants” could encourage startups and existing SMEs to adopt clean technologies and inclusive business practices. These grants should be easy to access and come with technical support to ensure effective implementation.
- 3- **Launch a National Sustainability Certification for SMEs:** Creating a tiered sustainability certification - similar to ISO but tailored to Egyptian SMEs - would allow firms to benchmark themselves and gain market credibility. Certification levels could be linked to tax breaks or export facilitation.
- 4- **Promote Public–Private Collaboration Platforms:** Government bodies should host innovation forums, business fairs, and collaborative workshops where SMEs can showcase sustainable solutions, network with corporate buyers, and learn from peers.
- 5- **Decentralize Support Mechanisms:** Regional SME development centers - especially in Upper Egypt and border governorates - should be empowered to deliver localized training, technical audits, and access to green finance. This ensures that policy reaches aligns with regional disparities.

For Financial Institutions and Investors

- 1- **Design Green Financial Products for SMEs:** Banks and microfinance institutions should develop loan products specifically tied to sustainability objectives. These can include reduced interest rates for firms that meet eco-certification standards or submit sustainability reports.
- 2- **Integrate ESG Screening into SME Credit Scoring:** Moving beyond traditional financial indicators, lenders should begin evaluating SMEs using environmental, social, and governance (ESG) metrics, creating long-term incentives for sustainable transformation.
- 3- **Facilitate Blended Finance Models:** Development banks can work with private investors to fund SMEs through risk-sharing mechanisms. This can unlock financing for innovation, especially in sectors like clean energy, sustainable agriculture, and green manufacturing.

For Development Agencies and International Donors

- 1- **Align Aid Programs with Egypt Vision 2030:** All externally funded programs should be explicitly mapped to national development goals, with sustainability indicators embedded in monitoring frameworks. SMEs should be included as a primary beneficiary group.

- 2- **Establish Regional Sustainability Accelerators:** Donor agencies can establish incubators or accelerators in rural and underserved urban areas focused on sustainability-oriented SMEs. These platforms would offer mentorship, seed funding, and access to market networks.
- 3- **Fund Leadership Transformation Programs:** Beyond technical training, international donors should support long-term leadership development initiatives that build values-based, sustainability-conscious leaders within Egypt's SME ecosystem.
- 4- **Support Multi-Stakeholder Knowledge Platforms:** Agencies such as UNDP, GIZ, and IFC can lead the creation of national forums for sharing research, data, and best practices on SME sustainability, linking academia, business, and government.

For Academic Institutions and Researchers

- 1- **Embed Sustainability and Leadership into Business Curricula:** Universities and technical institutions should revise their SME and entrepreneurship programs to include modules on innovative leadership, sustainability strategy, and performance analytics.
- 2- **Facilitate Research–Policy–Practice Linkages:** Academics should engage in more applied research that responds to policy gaps or business needs. Action research, case studies, and collaborative policy labs can accelerate the diffusion of research insights into practice.
- 3- **Promote Student Engagement with SMEs:** Structured internships, consulting projects, or innovation challenges that link students with SMEs can provide firms with fresh ideas while training students in real-world sustainability challenges.

Strategic Vision: Toward a National SME Sustainability Ecosystem

To truly transform Egypt's SMEs into sustainable engines of inclusive growth, isolated interventions are insufficient. What is needed is a national ecosystem approach, in which leadership development, sustainability integration, financial innovation, and policy coherence are pursued simultaneously and synergistically.

Such a transformation requires a shared commitment to:

- **Capacity-building** that goes beyond technical skill to strategic mindset
- **Incentivization** that rewards forward-thinking business practices
- **Partnerships** that connect micro firms to macro-opportunities
- **Localization** that respects and harnesses regional strengths and needs

In this way, SMEs can evolve from informal survival ventures to formal, future-ready enterprises that anchor Egypt's sustainable development agenda.

Conclusion and Future Research Directions

Summary of Key Findings

This study set out to explore the interplay between innovative leadership, sustainability practices, and performance outcomes among small and medium-sized enterprises (SMEs) in Egypt. In doing so, it addressed a pressing gap in both academic literature and practical discourse surrounding sustainable development in emerging economies. Grounded in the Resource-Based View (RBV) and the Triple Bottom Line (TBL) framework, the research employed Structural Equation Modeling (SEM) to test a mediation model based on survey data from 420 SMEs across multiple sectors and regions in Egypt.

The findings revealed that innovative leadership is a significant predictor of sustainability adoption among SMEs. In turn, sustainability practices were found to have a strong and positive influence on firm performance. Importantly, the study established that sustainability practices partially mediate the relation-

ship between innovative leadership and firm performance. This mediation effect highlights the strategic value of sustainability as not merely an outcome, but as an operational pathway through which leadership generates competitive advantage.

The results are highly relevant to Egypt's socio-economic context. With SMEs constituting over 90% of all registered firms and employing a significant share of the labor force, their alignment with Egypt Vision 2030 is essential to achieving inclusive and sustainable development. However, these enterprises face persistent structural constraints - including informality, weak access to finance, and limited technical capabilities - that inhibit their growth and social contribution. This study suggests that cultivating innovative leadership and embedding sustainability practices can help SMEs overcome these barriers and drive systemic transformation.

Theoretical Contributions

The research contributes to the theoretical understanding of SME development in several critical ways:

- 1- **Integration of RBV and TBL:** By combining these two frameworks, the study offers a nuanced understanding of how internal capabilities (leadership) interact with external performance criteria (sustainability) to influence business success.
- 2- **Mediation Model:** The empirical demonstration that sustainability mediates the relationship between leadership and performance extends previous leadership-performance models, offering a more comprehensive lens for SME analysis.
- 3- **Contextual Sensitivity:** Through multi-group SEM and regional disaggregation, the study surfaces regional variations in the leadership-sustainability-performance nexus, reinforcing the value of contextualized models in development research.
- 4- **Leadership in Developing Contexts:** The operationalization of innovative leadership within Egyptian SMEs adds to the relatively scarce literature on leadership in the MENA region, particularly in non-Western cultural, institutional, and economic environments.

Practical and Policy Implications

The study's practical implications span a range of stakeholders:

- For SME owners, the findings underscore the importance of internal capacity building and strategic foresight. Adopting innovative practices and embedding sustainability can lead to enhanced resilience, market relevance, and long-term profitability.
- For policymakers, the research offers evidence-based guidance to design targeted interventions that combine financial incentives with sustainability mandates. These include regulatory frameworks, certification programs, and regional support centers.
- For financial institutions, the study provides a rationale for integrating Environmental, Social, and Governance (ESG) indicators into credit scoring models for SMEs, thereby aligning financial incentives with sustainable development goals.
- For donor agencies and development partners, the research supports the creation of structured programs aimed at leadership development and sustainability training for SME sectors in developing economies.

Methodological Contributions and Rigor

Methodologically, this research contributes to the application of advanced statistical tools in SME research. The use of SEM enabled the simultaneous estimation of measurement and structural models, increasing the robustness of the findings. The reliability and validity of the constructs were confirmed through

CFA, AVE, and discriminant validity measures, enhancing the credibility of the results. Moreover, the large sample size and stratified sampling method strengthen the generalizability of the findings within Egypt's diverse SME ecosystem.

Limitations

As with any empirical study, certain limitations should be acknowledged. First, the cross-sectional nature of the data restricts the ability to infer causality or observe temporal dynamics. Second, reliance on self-reported survey data may be subject to biases such as social desirability or common method variance. Third, the research did not include informal SMEs, which make up a significant portion of Egypt's entrepreneurial ecosystem but are difficult to access through formal sampling methods. Finally, while the study focused on Egyptian SMEs, findings may not be generalizable to other national contexts without adjustment for institutional and cultural differences.

Future Research Directions

Building on the insights generated by this study, future research may consider the following avenues:

- 1- **Longitudinal Designs:** Tracking the same firms over time would allow researchers to examine how leadership practices and sustainability integration evolve and how these changes impact firm performance across economic cycles or crises.
- 2- **Mixed Methods Approaches:** Qualitative studies, such as case studies or ethnographic research, could enrich understanding of the nuanced dynamics between leadership and sustainability practices. This would also allow for exploration of informal practices and indigenous knowledge.
- 3- **Comparative Cross-Country Studies:** Examining similar models in other MENA countries or Global South contexts could identify regional patterns and institutional effects that shape SME strategies.
- 4- **Exploration of Informal Enterprises:** Given the size of the informal economy in Egypt, future studies should aim to explore leadership and sustainability practices within unregistered or semi-formal enterprises.
- 5- **Technology as a Moderator:** The role of digital tools in mediating or moderating the impact of leadership on sustainability and performance could be explored, particularly given Egypt's rapid digital transformation.
- 6- **Gender and Leadership:** Gendered analysis of leadership styles and their relationship with sustainability adoption could offer new dimensions to both academic and policy debates.

Concluding Reflections

This study concludes that innovative leadership and sustainability are not isolated constructs but are integrally linked and mutually reinforcing in the context of SME development. In Egypt, where economic ambition meets developmental urgency, SMEs must evolve into institutions of innovation and sustainability. Leadership, in this regard, becomes more than a managerial tool - it becomes a societal imperative. By aligning leadership practices with sustainability strategies, SMEs can drive inclusive growth, contribute to national objectives, and serve as catalysts for broader socio-economic transformation.

As Egypt advances toward its Vision 2030, the role of SMEs will be pivotal. It is hoped that the findings and recommendations of this study provide meaningful guidance for entrepreneurs, policymakers, researchers, and international partners working toward a more resilient, equitable, and sustainable economy.

References

- Albloushi, F., Evans, N., & Levermore, G. (2021). The impact of leadership styles on organisational innovation: Evidence from UAE SMEs. *Journal of Innovation Management*, 9 (2), 45-62.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17 (1), 99-120.
- Bashir, M., & Verma, R. K. (2017). Leadership styles and organizational commitment: A study on Indian SMEs. *Global Business Review*, 18 (3), 730–748.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (4th ed.). Thousand Oaks, CA: Sage.
- Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Oxford, UK: Capstone Publishing.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18 (1), 39-50.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. (2nd ed.). Thousand Oaks, CA: Sage.
- Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20 (4), 986–1014.
- IFC. (2021). *Green Finance and SMEs: Policy Perspectives and Case Studies*. Washington, DC: International Finance Corporation.
- Klewitz, J., & Hansen, E. G. (2014). Sustainability-oriented innovation of SMEs: A systematic review. *Journal of Cleaner Production*, 65, 57-75.
- MSMEDA. (2023). *Annual SME Sector Report*. Cairo, Egypt: Ministry of Trade and Industry.
- Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, 13 (6), 705-750.
- OECD. (2019). *Strengthening SMEs and Entrepreneurship for Productivity and Inclusive Growth*. Paris, France: OECD Publishing.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89 (1-2), 62–77.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach*. (7th ed.). Chichester, UK: Wiley.
- Suriyankietkaew, S. (2016). Sustainable leadership practices driving sustainable entrepreneurship and innovation: Empirical evidence from Thailand. *International Journal of Entrepreneurship*, 20 (1), 1–20.
- UN Global Compact. (2020). *Integrating Sustainability into SME Strategy*. (Guidance document).
- UNDP. (2022). *Egypt Human Development Report 2022: Development, a Right for All*. Cairo, Egypt: UNDP Egypt.
- Vision 2030 Egypt. (2018). *Sustainable Development Strategy: Egypt Vision 2030*. Cairo, Egypt: Ministry of Planning and Economic Development.
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, 20 (1), 71–91.
- World Bank. (2020). *Small and Medium Enterprises (SMEs) Finance*. (Web page).

- Al-Hassan, M. A. A. (2018). Sustainable human resource management practices and their impact on organizational performance: An empirical study in the Jordanian telecommunication sector. *International Journal of Business and Management*, 13 (10), 108–121.
- Al-Qurashi, M. A. (2020). The role of sustainable leadership in promoting organizational innovation: A field study on the general directorate of civil defense in Makkah region. *Journal of Economics and Administrative Sciences*, 25 (1), 1–18.
- Al-Shami, M. A. (2019). Sustainable leadership and its relationship to financial performance of Saudi banks: An analytical study. *Journal of Financial and Business Studies*, 12 (2), 55-78.
- Avram, C., & Cioponea, V. C. (2020). Sustainable leadership and organizational performance in the era of digital transformation. *The International Conference on Business, Economics, and Management*, 1-10.
- Bassi, L., & Van Der Linden, P. (2019). Innovative leadership in SMEs: A sustainable approach. *Journal of Innovation and Entrepreneurship*, 8 (1), 1–12.
- Byrne, B. M. (2010). *Structural Equation Modeling with Mplus: Basic Concepts, Applications, and Programming*. Taylor & Francis Group.
- Chen, Y. (2019). Innovative leadership and sustainable performance in chinese SMEs: The mediating role of corporate social responsibility. *Sustainability*, 11 (19), 5430.
- Chin, W. W. (1998). The partial least squares approach for structural equation modeling. *Modern Methods for Business Research*, 295 (2), 295–336.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. (2nd ed.). Lawrence Erlbaum Associates.
- D’Amato, A., & Herzfeldt, M. (2008). *Integrating Sustainability into Business Strategy: A Handbook for Practitioners*. Greenleaf Publishing.
- De Vaus, D. (2002). *Surveys on Social Research*. (5th ed.). Allen & Unwin.
- Eccles, R. G., & Serafeim, G. (2013). The true cost of a misaligned corporate culture. *Harvard Business Review*, 91 (10), 96-104.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277-319.
- Kafouri, M., & Tsaliki, E. (2020). The Impact of Sustainable Leadership on Organizational Performance in the Manufacturing Sector: A Case Study from Greece. *Journal of Business and Economics*, 11 (3), 45–62.
- Kanter, R. M. (1983). *The Change Masters: Innovation for Productivity in the American Corporation*. Simon and Schuster.
- Kearns, G. S., & Sabherwal, R. (2006). Strategic alignment and its impact on firm performance. *Journal of Management Information Systems*, 23 (1), 193-229.
- Kouzes, J. M., & Posner, B. Z. (2017). *The Leadership Challenge: How to Get Extraordinary Things Done in Organizations*. (6th ed.). Jossey-Bass.
- Kreiser, B. J. (2022). The impact of sustainable leadership on employee engagement and innovation in SMEs. *Journal of Small Business and Enterprise Development*, 29 (4), 543–561.
- Kuhn, T. S. (1962). *The Structure of Scientific Revolutions*. University of Chicago Press.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative Data Analysis: A Methods Sourcebook*, (4th ed.). SAGE Publications.

- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*. (3rd ed.). McGraw-Hill.
- Nyman, N. (2019). Sustainable leadership in action: A case study of a Finnish company. *Journal of Corporate Citizenship*, 74, 11-24.
- Pradhan, R. K., & Dash, S. (2019). Sustainable leadership and its impact on organizational performance: An empirical study in the Indian banking sector. *Journal of Management and Public Policy*, 10 (1), 1-15.
- Robbins, S. P., & Judge, T. A. (2019). *Organizational Behavior*. (18th ed.). Pearson.
- Schumacker, R. E., & Lomax, R. G. (2016). *A Beginner's Guide to Structural Equation Modeling*. (4th ed.). Taylor & Francis.
- Suriyankietkaew, S., & Avery, G. C. (2016). Sustainable leadership practices driving financial performance: Empirical evidence from Thai SMEs. *Sustainability*, 8 (4), 327.
- Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*, 18 (4), 298-318.
- United Nations Development Programme. (2022). *Egypt Human Development Report 2022: Development, A Right for All*. UNDP Egypt.
- Wang, Y., Yang, Y., & Wang, C. (2024). The impact of sustainable leadership on firm performance: The mediating role of corporate social responsibility. *Journal of Business Research*, 174, 113497.