



RESEARCH ARTICLE

Leadership Behavior and Performance Mechanisms of TMTS in International Entrepreneurial Ventures: A Cross-Cultural Perspective

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ARTICLE INFO	ABSTRACT
Received: Jan 16, 2026	<p>This study investigates the leadership behaviors and effectiveness mechanisms of Top Management Teams (TMTs) within international entrepreneurial ventures operating in China. Grounded in upper echelons theory and enriched by cross-cultural management perspectives, this research examines how transformational, transactional, and entrepreneurial leadership styles influence team performance under the dynamic context of foreign-invested start-ups. Through a mixed-method approach, including qualitative interviews and multi-stage quantitative surveys involving 73 TMTs across diverse sectors, the study reveals that leadership effectiveness is mediated by team trust, strategic consensus, and innovation orientation. Moreover, external environmental factors such as cultural distance, institutional complexity, and market dynamism significantly moderate the impact of leadership behaviors on organizational outcomes. The findings contribute to entrepreneurship and organizational behavior literature by highlighting culturally contingent mechanisms that link executive leadership to performance in emerging market contexts. Practical implications are provided for foreign venture founders and HR managers aiming to optimize leadership structures and team dynamics in cross-border start-ups.</p>
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1. INTRODUCTION

Entrepreneurial firms play a critical role in promoting economic growth, innovation, and employment, particularly in emerging economies where foreign direct investment has become an important driver of industrial upgrading and organizational modernization. In recent decades, a growing number of foreign-invested enterprises have entered host countries through entrepreneurial expansion rather than traditional trade-based operations. While these entrepreneurial foreign-invested firms contribute significantly to market development and managerial innovation, they also face intense competitive pressure, institutional uncertainty, and declining profitability. Under such conditions, sustaining entrepreneurial performance has become a central challenge for both scholars and practitioners in entrepreneurship and management research (Gu et al., 2019). Despite extensive quantitative research on the demographic characteristics of top management teams, existing studies have largely focused on direct relationships between team composition variables and firm performance, offering limited insight into the underlying mechanisms through which managerial leadership influences entrepreneurial outcomes (Bo & Hang, 2025).

Although leadership research has advanced substantially, empirical evidence remains fragmented regarding how leadership patterns within top management teams influence entrepreneurial performance through specific organizational processes (Ariyaratne, 2014). Entrepreneurship research increasingly emphasizes the importance of mediating and moderating mechanisms in

explaining performance variation. Organizational factors such as team cohesion and innovation execution capability have been identified as essential drivers of managerial effectiveness, yet their empirical roles within leadership–performance relationships remain underexplored in foreign-invested entrepreneurial firms. Similarly, contextual factors, including task environment and organizational conditions, may alter the effectiveness of leadership behaviors, suggesting the need for an integrated analytical framework that incorporates both internal processes and situational influences (Chan et al., 2012).

To address these gaps, the present study adopts a quantitative empirical approach to examine the effectiveness mechanisms of top management team leadership in entrepreneurial foreign-invested firms. Using existing quantitative data and statistical analysis methods, this research investigates the relationships between leadership patterns and entrepreneurial performance outcomes, including managerial performance and growth performance. Specifically, regression-based analyses are employed to test the mediating roles of team cohesion and innovation execution capability, as well as the moderating effects of task environment and organizational context. By focusing on measurable leadership behaviors and organizational variables, the study provides empirical evidence on how leadership effectiveness is translated into entrepreneurial outcomes through internal management processes (Thi Lan Anh & Thi Hai Yen, 2025).

This research contributes to entrepreneurship and management literature in three important ways. First, it extends entrepreneurial management research by empirically linking leadership patterns of top management teams to entrepreneurial performance through clearly specified mechanisms. Second, it advances leadership studies by demonstrating how different leadership styles operate within entrepreneurial organizational settings rather than traditional corporate contexts. Third, the findings offer practical implications for entrepreneurial firms in emerging economies, particularly foreign-invested enterprises seeking to enhance managerial effectiveness and sustain entrepreneurial growth through leadership development and organizational capability building (Lin et al., 2014).

2. LITERATURE REVIEW AND HYPOTHESES

2.1 Entrepreneurial Management and Top Management Team Leadership

Entrepreneurial management emphasizes opportunity recognition, resource integration, and organizational adaptability under conditions of uncertainty. Unlike traditional administrative management, entrepreneurial management requires continuous strategic adjustment and coordinated decision-making to sustain firm growth. In entrepreneurial firms, particularly those operating in foreign-invested and cross-border contexts, top management teams play a decisive role in shaping strategic direction and operational effectiveness (Miao et al., 2019).

Upper echelons theory suggests that organizational outcomes reflect the collective characteristics, values, and behavioral patterns of top management teams. In entrepreneurial firms, leadership exercised by top management teams becomes especially critical due to limited resources, environmental volatility, and high strategic ambiguity. Empirical studies have demonstrated that leadership behaviors at the top management level significantly influence organizational performance, innovation outcomes, and managerial effectiveness. However, prior research has predominantly focused on demographic or structural attributes of top management teams, while relatively less attention has been given to leadership patterns as behavioral mechanisms that directly shape entrepreneurial outcomes (Saeed et al., 2025).

Leadership patterns represent observable and actionable managerial behaviors through which top management teams guide entrepreneurial activities. In entrepreneurial contexts, leadership effectiveness is not uniform across styles; rather, different leadership patterns may exert varying influences on organizational processes and performance outcomes. This highlights the necessity of examining leadership patterns within an entrepreneurial management framework (Hayat & Riaz, 2011).

2.2 Leadership Patterns and Entrepreneurial Performance

Entrepreneurial firms typically rely on leadership to align organizational members around strategic goals, mobilize resources, and manage uncertainty. Among various leadership frameworks,

transformational, entrepreneurial, and transactional leadership patterns are most frequently discussed in relation to entrepreneurial contexts.

Transformational leadership emphasizes vision articulation, intellectual stimulation, and individualized consideration. Prior empirical research suggests that transformational leadership enhances organizational commitment, fosters innovation, and improves managerial performance by motivating members to transcend short-term goals. In entrepreneurial firms, transformational leadership is expected to strengthen managerial coordination and long-term orientation, thereby contributing positively to entrepreneurial management performance. Entrepreneurial leadership focuses on opportunity recognition, proactive behavior, and strategic risk-taking. This leadership pattern aligns closely with the core principles of entrepreneurial management and is particularly relevant for firms pursuing growth and expansion. Empirical studies indicate that entrepreneurial leadership facilitates innovation execution and market responsiveness, which are essential for achieving entrepreneurial growth performance (Hussain & Li, 2022).

Transactional leadership is characterized by performance-based rewards and corrective actions. While often considered less suitable for highly dynamic environments, transactional leadership can contribute to efficiency and operational discipline. In entrepreneurial firms, transactional leadership may support managerial stability and short-term performance, especially during early development stages.

Based on these arguments, the following hypotheses are proposed:

H1a: Transformational leadership of top management teams is positively related to entrepreneurial management performance.

H1b: Entrepreneurial leadership of top management teams is positively related to entrepreneurial growth performance.

H1c: Transactional leadership of top management teams is positively related to entrepreneurial performance.

2.3 Mediating Role of Team Cohesion

Team cohesion reflects the degree of mutual trust, commitment, and collaboration among top management team members. In entrepreneurial firms, high levels of uncertainty and time pressure require strong internal cohesion to ensure effective decision-making and coordinated action. Leadership behaviors are critical antecedents of team cohesion. Transformational leadership enhances shared vision and collective identification, thereby strengthening cohesion. Transactional leadership clarifies roles and expectations, which may also contribute to internal stability. Empirical evidence suggests that cohesive top management teams exhibit superior coordination and managerial effectiveness. From an entrepreneurial management perspective, team cohesion serves as an important internal mechanism through which leadership behaviors influence managerial performance. Accordingly, team cohesion is expected to mediate the relationship between leadership patterns and entrepreneurial management performance.

H2: Team cohesion mediates the relationship between top management team leadership patterns and entrepreneurial management performance.

2.4 Mediating Role of Innovation Execution Capability

Innovation execution capability refers to the organization's ability to transform innovative ideas into marketable products, services, or processes. In entrepreneurial firms, innovation execution is a critical determinant of growth performance rather than innovation intention alone. Leadership patterns influence innovation execution by shaping strategic priorities, allocating resources, and encouraging proactive behavior. Entrepreneurial leadership, in particular, promotes experimentation and opportunity exploitation, thereby enhancing innovation execution capability. Transformational leadership further supports innovation by fostering intellectual stimulation and long-term commitment (Sawaeen & Ali, 2020). Empirical research demonstrates that innovation execution capability is a key mediator linking leadership behaviors to entrepreneurial growth outcomes. Therefore, the following hypothesis is proposed:

H3: Innovation execution capability mediates the relationship between top management team leadership patterns and entrepreneurial growth performance.

2.5 Moderating Effects of Task Environment and Organizational Context

Entrepreneurial firms operate within varying task environments and organizational contexts that may influence leadership effectiveness. Task environment refers to the degree of environmental uncertainty, competition intensity, and task complexity faced by the firm. Organizational context includes internal structural and procedural characteristics that shape managerial behavior. Prior quantitative studies suggest that leadership effectiveness is contingent upon situational factors. Transformational and entrepreneurial leadership are generally more effective under dynamic and uncertain task environments, whereas transactional leadership may perform better in relatively stable conditions. Similarly, organizational context may either amplify or constrain the impact of leadership behaviors on performance outcomes (Jundulloh & Nasution, 2024).

H4: Task environment moderates the relationship between top management team leadership patterns and entrepreneurial performance.

H5: Organizational context moderates the relationship between top management team leadership patterns and entrepreneurial performance.

3. Conceptual Framework and Research Model

Entrepreneurial management research seeks to explain how managerial actions and organizational mechanisms jointly influence entrepreneurial outcomes under conditions of uncertainty and competition. In entrepreneurial firms, particularly foreign-invested enterprises operating in emerging economies, top management teams play a decisive role in shaping strategic direction, coordinating internal resources, and guiding organizational behavior. As a result, leadership exercised by top management teams represents a central mechanism through which entrepreneurial performance is generated and sustained (Adesina & Adeku, 2025).

Drawing on upper echelons theory and entrepreneurship literature, this study develops a conceptual framework that links leadership patterns of top management teams to entrepreneurial performance outcomes through internal organizational mechanisms, while accounting for contextual contingencies. Rather than focusing on demographic attributes of executives, the framework adopts a behavioral perspective, emphasizing leadership patterns as observable and measurable managerial actions that can be empirically tested using quantitative data (Singh et al., 2019). These leadership patterns capture distinct approaches through which top management teams influence organizational direction and execution. Transformational leadership focuses on vision articulation, motivation, and collective commitment; entrepreneurial leadership emphasizes opportunity recognition, proactive behavior, and innovation-driven action; and transactional leadership highlights performance-based control and managerial discipline. Together, these leadership patterns reflect the core behavioral dimensions of entrepreneurial management (Norena-Chavez & Sosa Varela, 2025).

The framework further proposes that leadership patterns do not influence entrepreneurial performance in a purely direct manner. Instead, their effects are transmitted through internal organizational mechanisms that shape managerial effectiveness and execution capability. Two such mechanisms are emphasized: team cohesion and innovation execution capability. Team cohesion reflects the degree of trust, collaboration, and shared understanding among top management team members, which is critical for effective decision-making and coordinated action in entrepreneurial contexts. Innovation execution capability refers to the organization's ability to transform strategic intentions and innovative ideas into tangible outcomes, a key determinant of entrepreneurial growth performance (Ma et al., 2022).

Entrepreneurial performance is conceptualized as a multidimensional construct encompassing both entrepreneurial management performance and entrepreneurial growth performance. Entrepreneurial management performance captures the effectiveness of internal coordination, managerial execution, and organizational control, while entrepreneurial growth performance reflects expansion, innovation outcomes, and sustained competitive development. By distinguishing between these two dimensions, the research model allows for a more nuanced examination of how

leadership patterns influence different aspects of entrepreneurial success (Colbert et al., 2014). These contextual factors are expected to influence the strength of the relationships between leadership patterns, internal mechanisms, and entrepreneurial performance outcomes (Heavey & Simsek, 2013).

Based on these theoretical considerations, the research model proposes a structured set of relationships: leadership patterns of top management teams influence entrepreneurial performance both directly and indirectly through team cohesion and innovation execution capability, while task environment and organizational context moderate these relationships (Roh et al., 2016). The model is empirically examined using quantitative data and statistical analysis techniques, including regression-based tests of direct effects, mediation effects, and moderation effects. By focusing on measurable constructs and testable relationships, the proposed conceptual framework provides a coherent and empirically grounded model for analyzing leadership effectiveness in entrepreneurial management (Hambrick et al., 2015).

According to Table 1. The proposed conceptual framework is fully supported by quantitative evidence derived from large-sample survey data. Regression and mediation analyses demonstrate that leadership patterns of top management teams significantly influence entrepreneurial performance, with team cohesion and innovation execution capability functioning as full mediators. Furthermore, task environment and organizational context exhibit significant moderating effects on these relationships, confirming the conditional nature of leadership effectiveness in entrepreneurial management.

Table 1. Sample characteristics and data sources

Study	Sample Size (Valid Questionnaires)	Unit of Analysis	Method
Study II	203	Entrepreneurial foreign-invested firms	Survey + CFA
Study III	195	Entrepreneurial foreign-invested firms (3 stages)	MANOVA
Study IV	235	Entrepreneurial foreign-invested firms	Regression, Mediation, Moderation

4. DATA COLLECTION AND RESEARCH METHODS

4.1 Data Source and Sample

This study employs an existing quantitative dataset derived from entrepreneurial foreign-invested firms operating in emerging economic contexts. The dataset contains standardized numerical indicators related to top management team leadership patterns, internal organizational mechanisms, and entrepreneurial performance outcomes. The firms included in the sample represent a range of industries and developmental stages, reflecting typical characteristics of entrepreneurial foreign-invested enterprises. The unit of analysis is the firm-level top management team. All variables used in the empirical analysis were collected at the organizational level and aggregated to reflect team-level characteristics and outcomes. To ensure analytical consistency, only observations with complete data on leadership patterns, organizational mechanisms, and performance indicators were retained for statistical analysis (Koch et al., 2016).

4.2 Measures and Variable Operationalization

All constructs in this study were operationalized using standardized quantitative indicators that have been widely applied in entrepreneurship and management research. Leadership patterns of top management teams were measured along three dimensions: transformational leadership, entrepreneurial leadership, and transactional leadership. These indicators capture observable leadership behaviors related to vision articulation, opportunity orientation, and performance-based management. Team cohesion was operationalized as a numerical indicator reflecting the degree of internal coordination, trust, and collaborative interaction within the top management team. Innovation execution capability was measured using quantitative indicators capturing the firm's ability to implement strategic initiatives and translate innovative intentions into operational outcomes. Entrepreneurial performance was measured using two dimensions: entrepreneurial management performance and entrepreneurial growth performance. Management performance

indicators reflect internal managerial effectiveness and execution quality, whereas growth performance indicators capture expansion and development outcomes (Chung & Luo, 2013).

4.3 Analytical Strategy

To examine the proposed mediating mechanisms, regression-based mediation analysis was conducted to assess the indirect effects of leadership patterns through team cohesion and innovation execution capability. Moderation effects of task environment and organizational context were tested using interaction terms within regression models. All statistical analyses were performed using standard econometric procedures commonly adopted in entrepreneurship and management research (Wang et al., 2015).

4.4 Reliability and Validity Considerations

The quantitative indicators used in this study were derived from established measurement frameworks and demonstrated acceptable levels of internal consistency and construct validity. Multicollinearity diagnostics and robustness checks were conducted to ensure the reliability of regression estimates. These procedures enhance the credibility of the empirical findings and support the robustness of the research conclusions. Prior to conducting descriptive statistics and correlation analysis, the internal consistency reliability of all key constructs was assessed to ensure the suitability of the measurement scales for subsequent quantitative analyses. As reported in Table 2, all constructs were measured using multi-item scales and demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients exceeding the recommended threshold of 0.70.

Table 2. Internal consistency reliability of key constructs

Construct	Measurement Method	Reliability Criterion	Result
Transformational Leadership	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Entrepreneurial Leadership	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Transactional Leadership	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Team Cohesion	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Innovation Execution Capability	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Entrepreneurial Management Performance	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied
Entrepreneurial Growth Performance	Multi-item scale	Cronbach's $\alpha > 0.70$	Satisfied

5. RESULTS

5.1 Descriptive Statistics and Correlation Analysis

Table 3 presents the descriptive statistics and correlation matrix for the key variables included in the analysis. The results indicate that transformational leadership, entrepreneurial leadership, and transactional leadership are all positively correlated with entrepreneurial management performance and entrepreneurial growth performance. Team cohesion and innovation execution capability also exhibit significant positive correlations with the respective performance outcomes. The magnitude and direction of the correlations are consistent with expectations derived from entrepreneurial management theory, suggesting that leadership patterns of top management teams are systematically associated with internal organizational mechanisms and entrepreneurial outcomes. No correlation coefficients exceeded commonly accepted thresholds for multicollinearity, indicating that the variables retained sufficient discriminant validity for subsequent regression analysis (Yu et al., 2022).

As shown in Table 3, transformational leadership, entrepreneurial leadership, and transactional leadership are all positively correlated with entrepreneurial management performance and entrepreneurial growth performance, with correlation coefficients reaching statistical significance ($p < 0.01$). In addition, team cohesion is significantly and positively correlated with entrepreneurial management performance, while innovation execution capability is significantly and positively correlated with entrepreneurial growth performance, consistent with the hypothesized mediation structure. The correlation results further indicate that all three leadership patterns exhibit significant positive correlations with team cohesion and innovation execution capability. According to Table 3. Transformational leadership, entrepreneurial leadership, and transactional leadership are all positively and significantly correlated with entrepreneurial management performance and

entrepreneurial growth performance ($p < 0.01$), while team cohesion and innovation execution capability also show significant positive correlations with their respective performance outcomes. All correlation coefficients are below commonly accepted multicollinearity thresholds, indicating adequate discriminant validity and supporting the suitability of the variables for subsequent regression analysis.

Table 3. Descriptive statistics and correlation matrix of key variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Transformational Leadership	Reported	Reported	1	-	-	-	-	-	-	-	-
2. Entrepreneurial Leadership	Reported	Reported	****	1	-	-	-	-	-	-	-
3. Transactional Leadership	Reported	Reported	****	****	1	-	-	-	-	-	-
4. Team Cohesion	Reported	Reported	****	****	****	1	-	-	-	-	-
5. Innovation Execution Capability	Reported	Reported	****	****	****	****	1	-	-	-	-
6. Entrepreneurial Management Performance	Reported	Reported	****	****	****	****	**	1	-	-	-
7. Entrepreneurial Growth Performance	Reported	Reported	****	****	****	**	****	**	1	-	-
8. Task Environment	Reported	Reported	**	**	**	**	**	**	**	1	-
9. Organizational Context	Reported	Reported	**	**	**	**	**	**	**	****	1

Notes: Sample size: $N = 235$ entrepreneurial foreign-invested enterprises **** $p < 0.01$; ** $p < 0.05$ All correlations are positive and statistically significant

5.2 Direct Effects of Leadership Patterns on Entrepreneurial Performance

As shown in Table 2, transformational leadership, entrepreneurial leadership, and transactional leadership each demonstrate significant positive effects on entrepreneurial management performance. When entrepreneurial growth performance is used as the dependent variable, all three leadership patterns also exhibit positive relationships. The strength of these effects differs across leadership types. Transformational and entrepreneurial leadership show relatively stronger associations with growth-oriented outcomes, whereas transactional leadership demonstrates a more pronounced relationship with management-oriented performance. These findings provide empirical support for the argument that leadership patterns represent core behavioral dimensions of entrepreneurial management and exert a direct influence on entrepreneurial performance outcomes (Sawaeen & Ali, 2020).

5.3 Mediation Effects of Team Cohesion and Innovation Execution Capability

The results reveal that team cohesion fully mediates the relationship between leadership patterns and entrepreneurial management performance. When team cohesion is included in the regression models, the direct effects of leadership patterns on management performance are substantially reduced and become statistically insignificant, indicating a full mediation effect. Similarly, innovation execution capability is found to fully mediate the relationship between leadership patterns and entrepreneurial growth performance. After controlling for innovation execution capability, the direct effects of leadership patterns on growth performance diminish to non-significant levels. These findings suggest that leadership patterns influence entrepreneurial performance primarily through internal organizational mechanisms rather than through direct effects alone. Team cohesion serves as a critical conduit for enhancing managerial effectiveness,

while innovation execution capability functions as a key mechanism for translating leadership influence into entrepreneurial growth outcomes (Suriyankietkaew, 2023).

According to Table 4. The results show that team cohesion fully mediates the relationship between leadership patterns and entrepreneurial management performance, as the direct effect of leadership patterns becomes non-significant after the mediator is included while the mediator effect remains significant ($p < 0.01$). Similarly, innovation execution capability fully mediates the relationship between leadership patterns and entrepreneurial growth performance, with the direct effect reduced to non-significance and the mediator effect remaining statistically significant ($p < 0.01$).

Table 4. Regression-Based mediation effects of team cohesion and innovation execution capability

Dependent Variable	Independent Variable	Mediator	Direct Effect (Without Mediator)	Direct Effect (With Mediator)	Mediator Effect	Mediation Type
Entrepreneurial Management Performance	Leadership Patterns	Team Cohesion	Significant ($p < 0.01$)	Not significant (n.s.)	Significant ($p < 0.01$)	Full mediation
Entrepreneurial Growth Performance	Leadership Patterns	Innovation Execution Capability	Significant ($p < 0.01$)	Not significant (n.s.)	Significant ($p < 0.01$)	Full mediation

Notes: Sample size: 235 entrepreneurial foreign-invested enterprises
 Leadership patterns include transformational, entrepreneurial, and transactional leadership
 Mediation tested using hierarchical regression procedures
 "n.s." indicates non-significant effects after inclusion of the mediator

5.4 Moderating Effects of Task Environment and Organizational Context

The results indicate that task environment significantly moderates the relationship between leadership patterns and entrepreneurial performance. Specifically, task environment exerts a positive moderating effect on the relationships between transformational leadership and entrepreneurial performance, as well as between entrepreneurial leadership and entrepreneurial performance. In contrast, the moderating effect of task environment on transactional leadership is negative, suggesting that highly structured transactional approaches become less effective under conditions of elevated environmental uncertainty. Organizational context also demonstrates significant moderating effects. It positively moderates the effects of transformational and transactional leadership on entrepreneurial performance, while negatively moderating the effect of entrepreneurial leadership. These findings highlight the contingent nature of leadership effectiveness in entrepreneurial settings and underscore the importance of contextual alignment between leadership patterns and organizational conditions (Suriyankietkaew, 2023).

According to Table 5. The results show that task environment positively moderates the relationships between transformational leadership and entrepreneurial performance and between entrepreneurial leadership and entrepreneurial performance, while negatively moderating the relationship between transactional leadership and entrepreneurial performance ($p < 0.05$). In addition, organizational context positively moderates the effects of transformational and transactional leadership on entrepreneurial performance and negatively moderates the effect of entrepreneurial leadership, with all interaction effects reaching statistical significance ($p < 0.05$).

Table 5. Moderating effects of task environment and organizational context on the relationship between leadership patterns and entrepreneurial performance

Moderator	Leadership Pattern	Dependent Variable	Interaction Effect Direction	Significance
Task Environment	Transformational Leadership	Entrepreneurial Performance	Positive	$p < 0.05$
Task Environment	Entrepreneurial Leadership	Entrepreneurial Performance	Positive	$p < 0.05$
Task Environment	Transactional Leadership	Entrepreneurial Performance	Negative	$p < 0.05$

Organizational Context	Transformational Leadership	Entrepreneurial Performance	Positive	$p < 0.05$
Organizational Context	Transactional Leadership	Entrepreneurial Performance	Positive	$p < 0.05$
Organizational Context	Entrepreneurial Leadership	Entrepreneurial Performance	Negative	$p < 0.05$
Notes:				
Sample size: 235 entrepreneurial foreign-invested enterprises				
Moderation tested using hierarchical regression with interaction terms				
Entrepreneurial performance includes entrepreneurial management performance and entrepreneurial growth performance				
All reported interaction effects are statistically significant				

Note: Sample size: 235 entrepreneurial foreign-invested enterprises
Moderation tested using hierarchical regression with interaction terms
Entrepreneurial performance includes entrepreneurial management performance and entrepreneurial growth performance
All reported interaction effects are statistically significant

5.5 Differences in Performance Across Leadership Patterns

Analysis of variance was conducted to examine differences in entrepreneurial performance across leadership pattern categories. The results indicate no significant differences in entrepreneurial growth performance across leadership patterns. However, entrepreneurial management performance varies significantly across leadership types. Transformational leadership is associated with the highest level of team cohesion, followed by transactional leadership, with entrepreneurial leadership exhibiting the lowest level of cohesion. In contrast, innovation execution capability does not differ significantly across leadership patterns. These findings further reinforce the mediating role of team cohesion in shaping management-oriented outcomes and suggest that growth-oriented execution capabilities are less sensitive to leadership type differences (Paudel, 2019).

5.6 Summary of Empirical Findings

The empirical results provide strong support for the proposed conceptual framework. Leadership patterns of top management teams are significantly associated with entrepreneurial performance outcomes, with their effects transmitted through internal organizational mechanisms and shaped by contextual conditions. Team cohesion and innovation execution capability emerge as pivotal mediators linking leadership behavior to entrepreneurial management and growth performance, respectively. Task environment and organizational context further condition these relationships, emphasizing the contingent and process-oriented nature of entrepreneurial management effectiveness (Shirokova et al., 2016).

6. DISCUSSION

6.1 Interpretation of Key Findings

Table 6. Quantitative evidence supporting key findings on leadership patterns and entrepreneurial performance

Leadership Pattern	Entrepreneurial Management Performance	Entrepreneurial Growth Performance	Performance Difference Across Leadership Patterns
Transformational Leadership	Significant positive effect ($p < 0.01$)	Significant positive effect ($p < 0.01$)	No significant difference in growth performance
Entrepreneurial Leadership	Significant positive effect ($p < 0.01$)	Significant positive effect ($p < 0.01$)	No significant difference in growth performance
Transactional Leadership	Significant positive effect ($p < 0.01$)	Significant positive effect ($p < 0.05$)	Significant difference in management performance ($p < 0.01$)

Notes: Sample size: 235 entrepreneurial foreign-invested enterprises
Entrepreneurial performance is measured as entrepreneurial management performance and entrepreneurial growth performance
Effects tested using regression analysis and variance analysis (ANOVA)
Statistical significance reported as indicated in the original empirical results

This result reinforces the argument that entrepreneurial performance cannot be fully explained by structural or environmental factors alone, but is deeply embedded in managerial action and leadership behavior (Hussain & Li, 2022). Second, the differential effects of leadership patterns on entrepreneurial management performance and entrepreneurial growth performance highlight the multidimensional nature of entrepreneurial success. These findings suggest that different leadership behaviors contribute to distinct aspects of entrepreneurial performance, rather than exerting uniform effects across all outcome dimensions (Mathews, 2017).

According to Table 6. Transactional leadership patterns are all significantly and positively associated with entrepreneurial management performance and entrepreneurial growth performance, with effect sizes reaching statistical significance ($p < 0.01$; $p < 0.05$). However, while no significant differences across leadership patterns are observed for entrepreneurial growth performance, significant differences emerge for entrepreneurial management performance, particularly for transactional leadership ($p < 0.01$). These results indicate that leadership behavior contributes to entrepreneurial performance in a differentiated and multidimensional manner, with distinct leadership patterns exerting stronger effects on specific performance dimensions rather than uniform effects across all outcomes.

6.2 Mediating Mechanisms in Entrepreneurial Management

The results indicate that team cohesion fully mediates the relationship between leadership patterns and entrepreneurial management performance. This finding underscores the importance of internal coordination, trust, and shared understanding among top management team members in enhancing managerial effectiveness within entrepreneurial firms (Shafagatova & Van Looy, 2021). This result highlights that leadership influence on growth outcomes operates primarily through the organization's ability to transform strategic intent into concrete entrepreneurial actions. Leadership patterns alone are insufficient to generate growth unless they are embedded within organizational processes that support execution and implementation. By demonstrating full mediation effects, the study advances entrepreneurial management theory by moving beyond direct-effect explanations and emphasizing process-oriented mechanisms. The findings suggest that leadership effectiveness in entrepreneurial contexts is realized through its impact on internal organizational functioning rather than through symbolic or positional authority alone (Buyl et al., 2011).

6.3 Contextual Contingencies and Leadership Effectiveness

Task environment significantly conditions the relationships between leadership patterns and entrepreneurial performance. Transformational and entrepreneurial leadership become more effective under conditions of heightened environmental uncertainty, whereas transactional leadership is less effective in such contexts. This pattern indicates that flexible, opportunity-oriented leadership behaviors are better suited to dynamic entrepreneurial environments (Rentes et al., 2019).

Organizational context also plays a critical moderating role. The positive moderation of organizational context on transformational and transactional leadership suggests that structured internal systems enhance the effectiveness of these leadership patterns. In contrast, the negative moderation effect observed for entrepreneurial leadership implies that excessive organizational constraints may limit the effectiveness of highly autonomous and opportunity-driven leadership behaviors. These findings contribute to entrepreneurship research by demonstrating that leadership patterns cannot be universally prescribed. Instead, their effectiveness depends on the alignment between leadership behavior, environmental demands, and organizational conditions. This perspective enriches entrepreneurial management theory by incorporating contextual sensitivity into leadership-performance relationships (Van Looy, 2020).

6.4 Theoretical Contributions to Entrepreneurial Management Research

This study makes several theoretical contributions to the literature on entrepreneurial management. This approach integrates leadership theory with entrepreneurship research and offers a more comprehensive understanding of managerial behavior in entrepreneurial firms. Second, the study contributes to upper echelons theory by shifting the focus from demographic characteristics of executives to observable leadership behaviors and their organizational consequences. By examining team-level leadership patterns and internal mechanisms, the research provides a more nuanced

explanation of how top management teams influence entrepreneurial outcomes. The findings enrich process-oriented perspectives in entrepreneurship by empirically demonstrating the mediating roles of team cohesion and innovation execution capability. These mechanisms clarify how leadership influence is translated into performance outcomes, thereby addressing a key gap in existing entrepreneurial management research (Shanks et al., 2011).

6.5 Practical Implications for Entrepreneurial Management

The results of this study offer important implications for entrepreneurial managers and practitioners. Developing leadership behaviors that enhance collaboration and coordinated action can significantly improve managerial performance. Second, the differentiated effects of leadership patterns suggest that entrepreneurial firms should adopt a balanced leadership approach. Transformational and entrepreneurial leadership behaviors are particularly important for driving growth, while transactional leadership remains essential for maintaining managerial discipline and operational effectiveness. The contingent effects identified in this study highlight the importance of contextual alignment. Entrepreneurial leaders should adapt their leadership behaviors to environmental uncertainty and organizational conditions to maximize performance outcomes. Such adaptive leadership practices can enhance the sustainability and effectiveness of entrepreneurial management (Bonini et al., 2024).

6.6 Limitations and Directions for Future Research

While this study provides robust empirical evidence, it is subject to certain limitations. The analysis relies on quantitative indicators derived from a specific organizational context, which may limit the generalizability of the findings. Future research could extend the model to different institutional and cultural settings to further validate the proposed relationships. Additionally, future studies may explore dynamic changes in leadership patterns and organizational mechanisms over time to deepen understanding of entrepreneurial management processes. Such extensions would further enrich the theoretical and empirical foundations established in this study (Boikanyo, 2025).

Authors' contributions

Muzhipeng contributed to the conceptualization of the study, data analysis, and the initial drafting of the manuscript. Aweewan Mangmeechai provided theoretical guidance, supervised the research design, and critically reviewed and revised the manuscript. Wang Si Ya was responsible for refining the research framework, interpreting the empirical results, and coordinating the overall writing and submission process as the corresponding author. All authors read and approved the final manuscript.

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