The Influence of Entrepreneurial Orientation on Firm Performance: The Mediating Role of Learning Orientation in Small and Medium-Sized Enterprises

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Abstract

This study aimed to examine the influence of entrepreneurial orientation (EO) on learning orientation (LO) and firm performance (FP) in small and medium-sized enterprises (SMEs). Additionally, the research sought to validate a causal relationship model linking EO, LO, and SME performance. Data were collected through a structured questionnaire administered to 372 SME respondents. The analysis employed both descriptive statistics (percentage, mean, and standard deviation) and inferential statistics using Structural Equation Modeling (SEM) via the AMOS software. The goodness-of-fit indices indicated that the model was consistent with the empirical data (Chi-square/df = 1.32, CFI = 0.975, TLI = 0.966, RMSEA = 0.041, SRMR = 0.038). The findings revealed that: (1) EO, comprising innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness, had a significant positive effect on SME performance; (2) EO positively influenced LO; (3) LO had a positive impact on SME performance; and (4) EO influenced SME performance both directly and indirectly through LO. These findings provide practical implications for SMEs by emphasizing the importance of fostering an entrepreneurial mindset and a learning-oriented culture—particularly in promoting innovation—as a means to enhance organizational performance and competitiveness.

Keywords: Entrepreneurial orientation, Learning orientation, Firm performance

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Introduction

Entrepreneurs are widely recognized as key drivers of economic growth, particularly during periods of global economic slowdown and heightened uncertainty (United Nations, 2025). In this context, academic inquiries aimed at identifying the determinants of business success or failure become increasingly critical. Among the various conceptual frameworks, Entrepreneurial Orientation (EO) has attracted substantial scholarly attention as a strategic approach that significantly influences organizational performance. Rauch et al. (2009) asserted that EO is directly associated with firm performance (FP), as it provides a framework to guide strategic decision-making and entrepreneurial behavior. This perspective is further supported by Nulkar (2014), who argued that small and medium-sized enterprises (SMEs) adopt EO as a strategic planning tool to navigate dynamic environments and overcome crises affecting business operations.

In recent years, EO and its constituent dimensions have been extensively explored, particularly in relation to strategic value creation and the development of competitive advantage (Chen et al., 2023). A core element underpinning the sustainability of organizational competitiveness is innovation capability—a fundamental component of EO (Górska-Warsewicz, 2024). This capability can be cultivated through organizational systems and cultures that promote the acquisition, dissemination, and application of market and environmental knowledge. These knowledge processes foster both learning and innovation, thereby enhancing a firm's competitive positioning and overall success (Agazu & Kero, 2024).

In this regard, learning orientation (LO) plays a pivotal role in facilitating innovation within firms, as innovation is often the result of ongoing learning processes essential to contemporary business operations. Firms that exhibit strong learning capabilities are more likely to deliver superior customer service, maintain consistent quality standards, and achieve sustainable profitability (Alerasoul et al., 2022). Although the positive association between learning and organizational performance has been well documented, the specific mechanisms and contextual conditions that enable this relationship remain insufficiently understood. Several studies suggest that a firm’s risk-taking propensity enhances its innovation capacity, which in turn contributes to improved entrepreneurial performance (Giaccone & Magnusson, 2022; Mata et al., 2024). In this vein, Amin (2015) found that EO correlates with innovation intention, risk-seeking behavior, and

opportunity creation—all of which significantly influence SME performance. The same study also emphasized that LO is a crucial determinant of SME survival.

An effective learning process is thus closely intertwined with both innovation and organizational performance. It serves as a strategic resource that enables small firms to achieve operational efficiency, pursue growth objectives, and secure competitive advantage (Nasir et al., 2017). A growing body of research affirms that LO enhances SME performance by fostering organizational growth, deepening customer understanding, and cultivating customer loyalty—key factors that collectively lead to sustained business success (Mohammad, 2019; Dangosu, 2024).

Despite the growing interest in the interplay between EO, LO, and FP, a clear theoretical articulation of how these constructs interact—especially within the SME context of emerging economies—remains underdeveloped. Most empirical studies have predominantly focused on Western or developed nations, where institutional and market dynamics differ significantly from those in developing regions (Real et al., 2014). As such, there is a pressing need for empirical investigations that contextualize these strategic orientations within non-Western economies such as Thailand, where SMEs form the backbone of the national economy yet face unique challenges related to innovation, learning infrastructure, and strategic agility.

This study seeks to address this gap by offering three key contributions to the existing body of literature. First, it investigates both the direct and indirect relationships among EO, LO, and FP, thereby providing a more nuanced understanding of the mediating role of LO in translating entrepreneurial behaviors into tangible performance outcomes. Second, the research centers on small and medium-sized enterprises (SMEs) in Thailand, presenting a geographically and culturally distinctive context that adds depth to the global discourse on entrepreneurial strategy. Third, by employing Structural Equation Modeling (SEM), the study empirically validates a conceptual framework that links entrepreneurial strategic orientation with dynamic learning capabilities and firm performance.

Literature Review

Firm Performance (FP)

Firm performance refers to the outcomes achieved through an organization's strategic choices and management practices, utilizing its available resources, knowledge, and capabilities. It

represents a core dimension of overall organizational effectiveness and is typically assessed relative to the objectives and goals established by the firm (Delen et al., 2013). According to Wiklund and Shepherd (2005), performance in SMEs reflects the enhancement of multidimensional capabilities, forming an essential part of broader organizational effectiveness aimed at achieving sustained success.

Rauch et al. (2009) categorize firm performance into two primary dimensions: financial and non-financial. Financial performance encompasses indicators such as profitability, return on investment, and working capital ratio, which are commonly derived from financial statements and analyzed over time to assess business growth. In contrast, non-financial performance includes metrics such as market share expansion, customer satisfaction, and the fulfillment of strategic organizational objectives.

In essence, firm performance serves as a comprehensive indicator of a firm's ability to realize its vision, mission, and strategic intentions. Evaluating performance across both financial and non-financial dimensions provides insight into the organization's competitive positioning and operational effectiveness.

Entrepreneurial Orientation (EO)

Entrepreneurial orientation has emerged as a critical strategic concept, encapsulating a firm's practices, decision-making approaches, and behavioral patterns that foster competitive and innovative operations (Lomberg et al., 2017). It is particularly important for SMEs, enabling them to implement proactive strategies, stimulate innovation, and enhance their operational efficiency and competitiveness (Ključnikov et al., 2019). Lumpkin and Dess (1996) conceptualize EO through five key dimensions: (1) innovativeness, (2) proactiveness, (3) risk-taking, (4) autonomy, and (5) competitive aggressiveness.

Empirical research underscores the significance of EO for business performance. Liew et al. (2025) identify entrepreneurial competency as an intangible yet valuable resource that contributes to the sustainable performance of Malaysian SMEs. Aftab et al. (2024) similarly report a positive association between EO and SME performance in Pakistan, with innovation, proactiveness, and risk-taking emerging as critical determinants. These findings are consistent with the study by Kraus et al. (2012), which confirms a strong correlation between EO and firm performance among Dutch

SMEs, and are further corroborated by Yang and Aumeboonsuke (2022) as well as He and Puttawong (2024), who found parallel results in the context of Chinese entrepreneurs.

Moreover, firms exhibiting high levels of EO are more likely to adopt a learning-oriented culture, emphasizing openness to new knowledge, commitment to continuous learning, and alignment through a shared organizational vision (Wang, 2008). Gomes et al. (2022) provide empirical support for the positive influence of EO on learning orientation. In line with this, Alyammahi et al. (2024) assert that entrepreneurial behavior enhances creative learning, expands opportunity recognition, and improves overall business outcomes. Allameh and Khalilakbar (2018) further confirm the significant impact of EO on LO in the context of Iranian SMEs. Based on the reviewed literature, the following hypotheses are proposed:

H1: Entrepreneurial orientation has a positive influence on firm performance.

H2: Entrepreneurial orientation has a positive influence on learning orientation.

Learning Orientation (LO)

Learning orientation reflects an organization’s fundamental stance toward learning and the strategic role of leadership in promoting learning processes. It can be viewed as a cultural attribute that shapes a firm's capacity to generate, share, and apply knowledge (Amin, 2015). According to Tho (2019), LO encompasses organizational efforts to search for, acquire, and develop knowledge, which are critical to driving innovation and fostering business transformation. Synthesizing prior research, Calantone et al. (2002) identify four key dimensions of LO: (1) commitment to learning, (2) shared vision, (3) open-mindedness, and (4) intra-organizational knowledge sharing.

LO is vital for organizational development, as it enhances firms' adaptive capabilities and supports strategic decision-making. Sukma (2024) finds that LO has a significant and positive impact on SME performance, enabling firms to maximize efficiency, exploit competitive advantages, and create superior customer value, which in turn facilitates market expansion and improved performance. In a similar vein, Hakim and Wijaya (2022) demonstrate that LO positively affects the performance of micro and small enterprises (MSMEs) in Indonesia, primarily by enhancing innovation through knowledge-based strategies and creative idea generation.

Further supporting this view, Meekaewkunchorn et al. (2021) highlight the mediating role of LO and business strategy in reinforcing the resource-based view (RBV), thereby offering practical

insights for the formulation of managerial policies aimed at boosting firm performance. Complementing this perspective, Real et al. (2014) provide empirical evidence that LO partially mediates the relationship between EO and performance, underscoring LO's role in converting entrepreneurial strategies into measurable outcomes. Accordingly, the following hypotheses are developed:

H3: Learning orientation has a positive influence on firm performance.

H4: Learning orientation mediates the relationship between entrepreneurial orientation and firm performance.

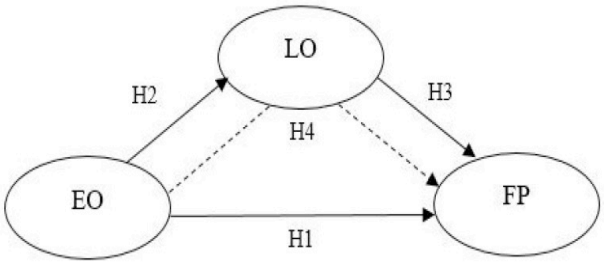

Figure 1 Conceptual Framework

Methodology

This study adopted a quantitative research design, utilizing a survey method to collect data from the target population. The population comprised entrepreneurs of small and medium-sized enterprises (SMEs) in the manufacturing sector located in Bangkok and its surrounding metropolitan areas. These entrepreneurs were registered with the Office of Small and Medium Enterprises Promotion (OSMEP), with the total population amounting to 29,532 individuals. The selected geographical area was chosen due to its high concentration of SMEs, ranking among the top nationwide in terms of entrepreneurial activity (OSMEP, 2024).

The appropriate sample size was determined using Yamane's (1973) formula for a known population, applying a 95% confidence level and a 5% margin of error, which resulted in a required sample of 395 respondents. Additionally, the 20:1 rule of thumb for Structural Equation Modeling (SEM) was applied, based on the inclusion of 12 observed variables, thereby suggesting a minimum of 240 responses. The final sample of 395 respondents exceeded this threshold and was therefore considered sufficient and appropriate for conducting SEM analysis.

A non-probability sampling method, specifically accidental (convenience) sampling, was employed to recruit participants. Questionnaires were distributed to SMEs between October and December 2024, and 372 valid responses were returned, representing a response rate of 74.40%. All returned questionnaires were screened for completeness and accuracy prior to analysis.

The research instrument was a structured questionnaire, developed based on an extensive review of relevant academic literature and prior empirical studies. The instrument was designed to measure the key latent constructs, including the external latent variable—Entrepreneurial Orientation (EO), and the internal latent variables—Learning Orientation (LO) and Firm Performance (FP). Responses were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to assess participants' agreement levels with each statement.

To ensure content validity, the questionnaire was reviewed by three subject-matter experts. The Index of Item-Objective Congruence (IOC) for all items exceeded the acceptable benchmark of 0.60, confirming adequate alignment with the intended constructs. Additionally, the reliability of the instrument was assessed using Cronbach's Alpha Coefficient. The reliability coefficients for EO, LO, and FP were 0.885, 0.903, and 0.872, respectively—all surpassing the recommended threshold of 0.70 (Hair et al., 2010), indicating a high level of internal consistency.

Descriptive statistics were employed to analyze the demographic characteristics of the respondents, including gender, age, educational background, managerial position, business size, and duration of business operation, with results presented in terms of frequencies and percentages. To examine the proposed hypotheses, inferential statistical techniques were applied, including causal modeling, to assess both direct and indirect effects among the studied variables.

Results

Based on the demographic analysis, the majority of respondents were male. Of the total 372 participants, 254 (68.28%) were male, while 118 (31.72%) were female. Regarding age, 146 respondents (39.25%) were between 40 and 50 years old. In terms of education, 198 respondents (53.23%) held a bachelor's degree. Most respondents, 284 (76.34%), owned their businesses. Additionally, 102 participants (27.42%) reported having 15 to 20 years of entrepreneurial experience.

The preliminary analysis of the 12 observed variables utilized in this study is presented in Table 1. The results indicate the mean scores, standard deviations, and interpretations for each construct.

Table 1 Preliminary Analysis of Observed Variables

Variable	Mean	SD	Interpretation
Entrepreneurial Orientation (EO)	4.12	0.789	High
Learning Orientation (LO)	4.03	0.724	High
Firm Performance (FP)	4.05	0.696	High

As shown in Table 1, respondents reported high levels of agreement across all variables. Firm performance received the highest mean score, followed by learning orientation and entrepreneurial orientation.

For Entrepreneurial Orientation (EO), the mean score of 4.12 indicates a high level of agreement. Respondents emphasized organizational encouragement of creativity and innovation, with particular attention given to technological advancement. Proactiveness was also noted as a key factor, especially through the development and promotion of technologically-oriented products.

Learning Orientation (LO) also exhibited a high mean score of 4.03. The findings suggest that cultivating a strong organizational learning culture was highly valued. Knowledge sharing across departments emerged as the second most important aspect.

In terms of Firm Performance (FP), the highest mean score of 4.05 reflects a strong level of agreement. Among the performance indicators, non-financial measures—specifically customer satisfaction—were rated the highest. Financial indicators, such as profitability, followed closely behind.

Table 2 Construct reliability and Convergent validity

Construct	No. of Items	Cronbach's Alpha	CR	AVE	Factor Loading
EO	5	0.763	0.908	0.698	0.729 – 0.868
LO	4	0.852	0.891	0.745	0.742 – 0.882
FP	3	0.867	0.910	0.718	0.755 – 0.854

Note: **$p < 0.01$, EO = Entrepreneurial Orientation; LO = Learning Orientation; FP = Firm Performance

The reliability of the instrument, which reflects internal consistency, was evaluated using Cronbach's Alpha and Composite Reliability (CR). As shown in Table 2, all constructs had Cronbach's Alpha values exceeding 0.700 and CR values ranging from 0.891 to 0.910—exceeding the 0.600 threshold. These results confirm the internal consistency of the constructs. The Average Variance Extracted (AVE) ranged from 0.698 to 0.745, which is above the 0.5 benchmark, indicating that the indicators adequately represented their respective latent variables. Moreover, all factor loadings were greater than 0.70 (ranging from 0.729 to 0.882), confirming the appropriateness of the measurement model. According to Hair et al. (2014), acceptable reliability thresholds are CR > 0.7 and AVE > 0.5, which were met in this study. These results confirm the model's suitability for structural equation modeling (SEM) analysis.

Table 3 Discriminant Validity

Construct	R^2	AVE	Cross Construct Correlation		
			TL	CM	CR
EO		0.698	**0.780**		
LO	0.62	0.745	0.565**	**0.766**	
FP	0.70	0.718	0.512**	0.473*	**0.769**

Note: *p < 0.05, **p < 0.01

Based on Table 3, the analysis of discriminant validity revealed that the square roots of the AVE values for each construct were greater than their corresponding cross-construct correlations in the same columns. This indicates that the measurement model demonstrates discriminant validity across all constructs. In other words, each construct shares more variance with its indicators than with other constructs, confirming that the indicators reflect distinct latent variables and do not overlap with unrelated constructs. The results confirm that the square roots of the AVE values (shown diagonally in bold) are higher than the corresponding cross-construct correlation values in their respective columns. This supports the discriminant validity of the measurement model, in line with the criteria proposed by Fornell and Larcker (1981), ensuring that each construct measures a unique conceptual domain.

From figure 2, The analysis revealed that the causal relationship model demonstrated a good fit with the empirical data. The model fit indices were as follows: Relative Chi-square

(CMIN/df) = 1.323, Comparative Fit Index (CFI) = 0.975, Tucker Lewis Index (TLI) = 0.966, Root Mean Square Error of Approximation (RMSEA) = 0.041, and Standardized Root Mean Square Residual (SRMR) = 0.038. All indices met the acceptable criteria (CMIN/df < 5.00, CFI ≥ 0.95, TLI ≥ 0.95, RMSEA < 0.08, SRMR < 0.08, and p-value > 0.05), as recommended by Hair et al. (2010). These results confirm that the structural model is well-aligned with the empirical data, supporting the research hypotheses.

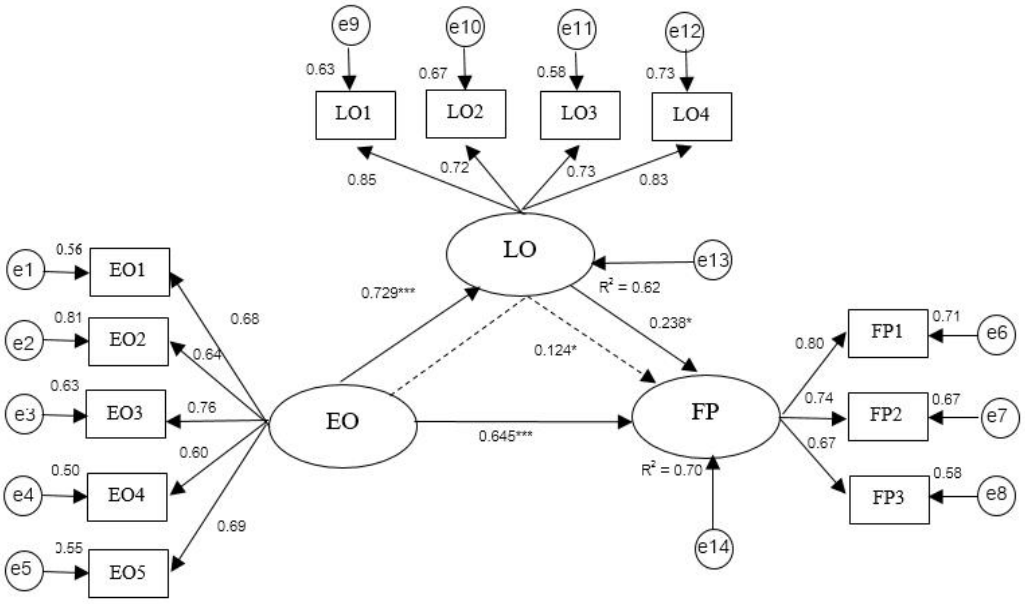

Figure 2 Results of Structural Equation Modeling Analysis

Note: *p < 0.05 indicates statistical significance at the 0.05 level; **p < 0.001 indicates statistical significance at the 0.001 level.

Table 4 Direct, Indirect, and Total Effects

Independent Variables	Dependent Variables					
	LO			FP		
	DE	IE	TE	DE	IE	TE
EO	0.729***	-	0.729***	0.645***	0.124*	0.769***
LO	-	-	-	0.238*		0.238*

Note: *p < 0.05, ***p < 0.001, DE = Direct effect, IE = Indirect effect, TE = Total effect

The results of the path analysis based on the structural equation model, which satisfied the model fit criteria, are presented in Table 4. The findings illustrate both the direct and indirect

effects among the variables: Entrepreneurial Orientation (EO), Learning Orientation (LO), and Firm Performance (FP) in Thai SMEs. As shown in Table 4, EO exerted a statistically significant direct effect on LO, with a path coefficient of 0.729. EO also had a significant direct effect on FP (β = 0.645) and an indirect effect via LO (β = 0.124), resulting in a total effect of 0.769. Furthermore, LO had a significant direct effect on FP (β = 0.238), indicating its role as a partial mediator in the relationship between EO and FP.

Table 5 Results of Hypothesis Testing

Hypothesis	Structural Relationship	β	t-value	p-value	Hypothesis Testing
H1	EO → FP	0.645***	12.182	.000	Supported
H2	EO → LO	0.729***	20.414	.000	Supported
H3	LO → FP	0.238*	3.648	.040	Supported
H4	EO → LO → FP	0.124*	3.219	.040	Supported

Note: *p < 0.05, ***p < 0.001.

As shown in Table 5, the results of the hypothesis testing through structural equation modeling are summarized as follows:

The findings provide empirical support for all four hypotheses:

H1**:** Entrepreneurial Orientation (EO) had a significant positive effect on Firm Performance (FP) (β = 0.645, t = 12.182, p < 0.001), supporting Hypothesis 1.

H2: EO significantly influenced Learning Orientation (LO) (β = 0.729, t = 20.414, p < 0.001), supporting Hypothesis 2.

H3: LO significantly influenced FP (β = 0.238, t = 3.648, p < 0.05), thus supporting Hypothesis 3.

H4: LO served as a mediating variable in the relationship between EO and FP. The indirect effect of EO on FP through LO was statistically significant (β = 0.124, t = 3.219, p < 0.05), supporting Hypothesis 4.

These findings highlight the critical roles of both entrepreneurial and learning orientations in enhancing firm performance, emphasizing the importance of fostering a learning-driven and innovation-oriented organizational culture within SMEs.

Discussion

The present study examined the structural relationships among entrepreneurial orientation (EO), learning orientation (LO), and firm performance in the context of small and medium-sized enterprises (SMEs) in Thailand. The findings provide empirical support for all hypothesized relationships and offer several theoretical and practical implications.

First, the study demonstrates that entrepreneurial orientation has a direct and positive impact on SME performance. This relationship reflects the ability of entrepreneurially oriented firms to recognize and exploit emerging market opportunities through innovation, agility, and strategic risk-taking. EO drives the pursuit of novel solutions, enhances market responsiveness, and supports operational efficiency, all of which contribute to improved organizational outcomes. Lumpkin and Dess (1996) emphasized that EO is critical for business success as it informs strategic direction and enhances competitive positioning through innovation and proactive behavior. These findings are in line with those of Kraus et al. (2012), Yang and Aumeboonsuke (2022), and Aftab et al. (2024), who found that innovation and strategic risk-taking are key contributors to SME performance. Entrepreneurially oriented firms are not only more likely to introduce new products and services but also to maintain a strong focus on customer needs and satisfaction, which in turn leads to both financial gains and enhanced firm reputation.

Second, the results indicate that entrepreneurial orientation exerts a significant positive influence on learning orientation. EO, which encompasses dimensions such as innovativeness, proactiveness, risk-taking, autonomy, and competitive aggressiveness, fosters an environment that promotes organizational learning. Firms with high levels of EO are characterized by a strong emphasis on creativity, experimentation, and proactive behaviors, all of which stimulate continuous knowledge acquisition and learning within the organization. This finding is consistent with Liew et al. (2025), who posited that entrepreneurial behavior encourages members at all levels to engage in adaptive learning processes in response to dynamic external environments. Similarly, Kraus et al. (2012) argued that EO enhances the learning capacity of SMEs, particularly through innovation-focused learning mechanisms. Furthermore, studies by Gomes et al. (2022) and He and Puttawong (2024) corroborate that entrepreneurial firms actively nurture a culture that values learning, shared vision, openness to change, and proactive engagement with markets. These firms tend to develop capabilities that enable them to continuously analyze and respond

to shifts in the business environment, thus reinforcing the strategic importance of learning as a core organizational competency.

Third, the results confirm that learning orientation significantly and positively influences firm performance. Organizations that prioritize learning are better equipped to make informed decisions, develop effective marketing and management strategies, and deliver value to customers. This supports the view of Tho (2019), who argued that learning processes enhance organizational capabilities and performance across various domains. A strong LO enables firms to acquire, assimilate, and apply knowledge effectively, which contributes to both short-term efficiencies and long-term competitiveness. These findings are consistent with Calantone et al. (2002) and Hakim and Wijaya (2022), who identified learning orientation as a determinant of organizational performance. Specifically, LO facilitates structural learning—where outdated processes are replaced with innovative practices—leading to the development of unique capabilities in knowledge creation, innovation, and strategic adaptation. These outcomes are linked to both tangible performance indicators, such as increased profitability, and intangible indicators, such as customer loyalty and expanded market share.

Lastly, the study identifies a significant indirect effect of EO on firm performance through LO, with an indirect effect value of 0.124. This finding suggests that learning orientation partially mediates the relationship between entrepreneurial orientation and performance. EO not only influences performance directly but also fosters a learning environment that enhances the firm's ability to translate entrepreneurial strategies into actionable and effective outcomes. This mediating role of LO supports the findings of Real et al. (2014) and Meekaewkunchorn et al. (2024), who demonstrated that LO serves as a critical mechanism through which entrepreneurial intent is transformed into improved organizational performance. The presence of both direct and indirect effects reinforces the strategic importance of integrating EO and LO within SME development frameworks. Firms that simultaneously cultivate entrepreneurial behaviors and learning capabilities are better positioned to adapt, innovate, and sustain competitive advantages in complex and evolving market environments.

In sum, the findings emphasize that entrepreneurial orientation and learning orientation are not only interrelated but also collectively contribute to the performance and long-term

viability of SMEs. Developing a synergistic approach that promotes both EO and LO is essential for SMEs seeking to thrive in today's increasingly competitive and uncertain business landscape.

Conclusion and Recommendation

The findings of this study underscore the pivotal role of entrepreneurial orientation (EO) in shaping both learning orientation (LO) and firm performance within small and medium-sized enterprises (SMEs). EO fosters an organizational culture that promotes innovation, risk-taking, and proactivity—factors that collectively contribute to the development of dynamic learning capabilities. Such a culture enables SMEs to remain agile in the face of environmental uncertainties and facilitates the development of strategic competencies that are vital for long-term competitiveness and sustainability.

The study confirms that both EO and LO exert direct positive effects on SME performance, while LO also plays a mediating role, reinforcing the link between EO and performance. These findings highlight the synergistic relationship between entrepreneurial and learning orientations in enhancing firm capabilities, particularly in navigating complex and rapidly changing markets. The integration of EO and LO promotes not only operational efficiency and adaptability but also supports innovation-driven growth and value creation.

From a practical perspective, the results suggest that SME leaders should place strategic emphasis on cultivating entrepreneurial behaviors and a strong learning culture. By doing so, SMEs can improve decision-making quality, foster innovation, and gain a sustainable competitive advantage in both financial and non-financial dimensions. Encouraging employee engagement in learning and experimentation, supporting creativity, and promoting proactive market strategies are essential actions that can significantly enhance organizational resilience and performance.

Recommendations for SMES

SMEs should embrace entrepreneurial orientation by fostering creativity, encouraging proactive operations, and supporting initiatives that drive innovation. Emphasizing EO will enhance organizational learning, leading to innovative thinking and competitiveness.

To improve SME performance, it is essential to cultivate a learning culture within the organization. This includes promoting knowledge-sharing and skill exchanges among employees, organizing team-building activities, fostering a shared vision, and providing training to develop new

knowledge and skills. Such initiatives promote creativity and innovation. Moreover, entrepreneurs should enhance their leadership capabilities through training, while also encouraging EO by supporting new ideas, product development, and exploration of new markets.

The observed relationship between EO and LO—particularly in fostering innovation-driven learning at both the entrepreneurial and employee levels—provides empirical evidence that can be utilized by government agencies and educational institutions. These insights are instrumental in guiding the development of programs that promote entrepreneurship and innovation among SMEs, thereby contributing to sustainable national development.

Entrepreneurs can also use the study's findings to build collaborative relationships and knowledge-sharing networks, especially within the SME manufacturing sector. The results underscore EO as a key driver linking learning orientation to SME performance in this sector.

Recommendations for next study

Future studies should explore SMEs in the commercial, service, or agricultural sectors to compare and contrast with the current findings. This would provide broader insights applicable across business sectors.

Additionally, since this study focused solely on EO as an independent variable, future research could investigate its relationship with other variable. This would provide SMEs with further valuable information to enhance their business development strategies.

References

Aftab, J., Veneziani, M., Sarwar, H., & Ishaq, M. I. (2024). Entrepreneurial orientation and firm performance in SMEs: The mediating role of entrepreneurial competencies and moderating role of environmental dynamism. *International Journal of Emerging Markets*, *19*(10), 3329-3352. https://doi.org/10.1108/IJOEM-07-2021-1151

Agazu, B. G., & Kero, C. A. (2024). Innovation strategy and firm competitiveness: a systematic literature review. *Journal of innovation and entrepreneurship*, *13*(1), 24. https://doi.org/10.1186/s13731-024-00381-9

Amin, M. (2015). The effect of entrepreneurship orientation and learning orientation on SMEs' performance: an SEM-PLS approach. *Journal for International Business and Entrepreneurship Development*, *8*(3), 215-230. https://doi.org/10.1504/JIBED.2015.070797

Alerasoul, S. A., Afeltra, G., Hakala, H., Minelli, E., & Strozzi, F. (2022). Organisational learning, learning organisation, and learning orientation: An integrative review and framework. *Human Resource Management Review*, *32*(3), 100854. https://doi.org/ 10.1016/ j.hrmr.2021.100854

Allameh, S. M., & Khalilakbar, R. (2018). Exploring the antecedents of innovation performance: the roles of entrepreneurial orientation, learning orientation and organizational learning. *International Journal of Business Excellence, 14*(4), 470-485. https://doi.org/10.1504/IJBEX.2018.090313

Alyammahi, A. H., Sarker, A. E., & Zervopoulos, P. (2024). Linking entrepreneurial orientation, learning orientation, organization structure and the growth of government. *Administrative Sciences*, *14*(10), 250. https://doi.org/10.3390/ admsci14100250

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management*, *31*(6), 515-524. https://doi.org/10.1016/S0019-8501(01)00203-6

Chen, Y. C., Arnold, T., Liu, P. Y., & Huang, C. Y. (2023). Understanding the role of entrepreneurial orientation in creating ambidextrous competitive advantage: A comparative-design, longitudinal study. *European Journal of Marketing*, *57*(1), 89-124. https://doi.org/10.1108/ EJM-08-2021-0661

Dangosu, E. (2024). Organizational learning, knowledge management, dynamic capability, innovation capability, Industry 4.0 implementation and firm performance. In *5th International Conference on Global Innovation and Trends in Economy 2024 (INCOGITE 2024)* (pp. 769–781). Atlantis Press. https://doi.org/10.2991/978-94-6463-585-0_53

Delen, D., Kuzey, C., & Uyar, A. (2013). Measuring firm performance using financial ratios: A decision tree approach. *Expert systems with applications*, *40*(10), 3970-3983. https://doi.org/10.1016/j.eswa.2013.01.012

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Giaccone, S. C., & Magnusson, M. (2022). Unveiling the role of risk‐taking in innovation: antecedents and effects. *R&D Management*, *52*(1), 93-107. https://doi.org/10.1111/radm.12477

Gomes, G., Seman, L. O., Berndt, A. C., & Bogoni, N. (2022). The role of entrepreneurial orientation, organizational learning capability and service innovation in organizational performance. *Revista de Gestao, 29*(1), 39–54. https://doi.org/10.1108/REGE-11-2020-0103

Górska-Warsewicz, H. (2024). Relationship between entrepreneurial orientation, innovative co-branding partnership, and business performance. *Journal of Entrepreneurship, Management and Innovation*, *20*(2), 139-159. https://doi.org/10.7341/20242027

Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective (7th edition).* New Jersey: Prentice Hall.

Hakim, N. I., & Wijaya, A. (2022). The influence of market and learning orientation on MSME business performance mediated by innovation. *Tenth International Conference on Entrepreneurship and Business Management 2021 (ICEBM 2021)*, (pp. 36–41). Atlantis Press. https://doi.org/10.2991/aebmr.k.220501.007

He, F., & Puttawong, D. (2024). The mediating effect of entrepreneurial action learning on the relationship between entrepreneurial orientation and entrepreneurial performance: A case study based on Chinese SMEs. *Journal of Infrastructure, Policy and Development 2024, 8*(6), 4326. https://doi.org/10.24294/jipd.v8i6.4326

Ključnikov, A., Mura, L., & Sklenár, D. (2019). Information security management in SMEs: factors of success. *Entrepreneurship and Sustainability Issues*, *6*(4), 2081. https://doi.org/10.9770/jesi.2019.6.4(37)

Kraus, S., Rigtering, J.P.C., Hughes, M. (2012). Entrepreneurial orientation and the business performance of SMEs: a quantitative study from the Netherlands. *Review of Managerial Science,* 6, 161–182. https://doi.org/10.1007/s11846-011-0062-9

Liew, M. X., Jamaluddin, A., Zainalaludin, Z., & Yusoff, I. S. M. (2025). Entrepreneurial orientation and firm performance of Malaysian SMEs: A systematic review and the uncharted

parts. *Journal of Entrepreneurship and Innovation in Emerging Economies*, *11*(1), 136-156. https://doi.org/10.1177/2393957524126151

Lomberg, C., Urbig, D., Stöckmann, C., Marino, L. D., & Dickson, P. H. (2017). Entrepreneurial orientation: The dimensions' shared effects in explaining firm performance. *Entrepreneurship theory and practice*, *41*(6), 973-998. https://doi.org/10.1111/etap.12237

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking It to performance. *The Academy of Management Review, 21*(1), 135–172. https://doi.org/10.2307/258632

Mata, M. N., Moleiro Martins, J., & Inácio, P. L. (2024). Collaborative innovation, strategic agility, & absorptive capacity adoption in SMEs: the moderating effects of customer knowledge management capability. *Journal of Knowledge Management*, *28*(4), 1116-1140. https://doi.org/10.1007/s13132-023-01202-2

Meekaewkunchorn, N., Szczepańska-Woszczyna K., Muangmee, C., Kassakorn, N., & Khalid, B. (2021). Entrepreneurial orientation and SME performance: The mediating role of learning orientation. *Economics and Sociology*, *14*(2), 294-312. https://doi:10.14254/2071-789X.2021/14-2/16

Mohammad, H. I. (2019). Mediating effect of organizational learning and moderating role of environmental dynamism on the relationship between strategic change and firm performance. *Journal of strategy and management*, *12*(2), 275-297. https://doi.org/ 10.1108/JSMA-07-2018-0064

Nasir, W. M. N. B. W. M., Al Mamun, A., & Breen, J. (2017). Strategic orientation and performance of SMEs in Malaysia. *Sage Open*, *7*(2), 139-152. https://doi.org/10.1177/ 2158244017712768

Nulkar, G. (2014). SMEs and environmental performance–A framework for green business strategies. *Procedia-Social and Behavioral Sciences*, 133, 130-140. https://doi.org/ 10.1016/j.sbspro.2014.04.177

Office of Small and Medium Enterprises Promotion. (2024). *Number of small and medium enterprises (SMEs)*. Retrieved from https://www.sme.go.th

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the

future. *Entrepreneurship theory and practice*, *33*(3), 761-787. https://doi.org/10.1111/j.1540-6520.2009.00308

Real, J. C., Roldán, J. L., & Leal, A. (2014). From entrepreneurial orientation and learning orientation to business performance: analysing the mediating role of organizational learning and the moderating effects of organizational size. *British Journal of Management*, *25*(2), 186-208. https://doi.org/10.1111/j.1467-8551.2012.00848.x

Sukma, A. (2024). Exploring factors influencing SMEs' success: The perspective of entrepreneurial and learning orientations. *Journal of Innovation in Business and Economics*, *8*(01), 33-46. https://doi.org/10.22219/jibe.v8i01.30206

Tho, N. D. (2019). Strategic orientations and firm innovativeness: a necessary condition analysis. *Baltic Journal of Management, 14*(3), 427-442. https://doi.org/10.1108/ BJM-07-2018-0280

United Nations (2025). *World economic situation and prospects 2025*. Retrieved from https://desapublications.un.org/publications/world-economic-situation-and-prospects-2025

Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneur ship: Theory and Practice, 32*(4), 635–657. https://doi.org/10.1111/ j.1540-6520.2008.00246.x

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of business venturing*, *20*(1), 71-91. https://doi.org/10.1016/j.jbusvent.2004.01.001

Yang, L., & Aumeboonsuke, V. (2022). The impact of entrepreneurial orientation on firm performance: The multiple mediating roles of competitive strategy and knowledge creation process. *Mobile Information Systems, 2022*(1), 1-10. https://doi.org/10.1155/2022/2339845