

HOW ENTREPRENEURIAL AGILITY DRIVES INTERNATIONAL PERFORMANCE IN COMMODITY-TRADING SMES

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ABSTRACT: This study examines entrepreneurial agility as a mediating mechanism linking entrepreneurial orientation and innovation capability to international business performance among Indonesian commodity-trading SMEs. This study contributes to international entrepreneurship literature by reconceptualizing innovation capability, rather than entrepreneurial orientation, as the primary foundation of entrepreneurial agility in emerging-market SMEs. Drawing on effectuation theory and business model innovation theory, data from 300 export-oriented SMEs were analyzed using PLS-SEM. The findings reveal that innovation capability significantly strengthens entrepreneurial agility and indirectly enhances international business performance through partial mediation. In contrast, entrepreneurial orientation primarily influences performance through direct pathways rather than agility formation, challenging dominant assumptions regarding the adaptive role of entrepreneurial orientation. These findings suggest that SMEs operating in volatile international markets should prioritize innovation-driven capability development to strengthen agility and sustain international competitiveness.

Keywords: Entrepreneurial Agility; Entrepreneurial Orientation; Innovation Capability; International Business Performance; Effectuation Theory

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INTRODUCTION

The internationalization of micro, small, and medium enterprises (SMEs) has emerged as a critical driver of economic development in emerging markets, yet these ventures face disproportionate challenges when competing in global commodity markets characterized by price volatility, demand fluctuations, and intensifying competition. Indonesian SMEs, while contributing significantly to national exports, struggle to sustain international business performance due to resource constraints and limited adaptive capabilities. Conventional internationalization theories, developed predominantly in stable Western contexts, inadequately explain how resource-constrained SMEs from emerging economies achieve competitive advantages in turbulent international environments.

Recent scholarship identifies entrepreneurial orientation (EO) and innovation capability (IC) as foundational strategic resources for international success. However, empirical evidence reveals persistent inconsistencies regarding their performance effects, exposing critical theoretical gaps. First, entrepreneurial orientation research demonstrates contradictory findings: while Gerschewski et al., (2015) found strong positive EO-performance relationships among international SMEs, D Jugend, (2018) revealed that only certain EO dimensions significantly influenced international scope, and Jantunen et al., (2008) reported that EO's performance impact varied substantially across contexts with some dimensions showing insignificant effects. Second, innovation capability studies exhibit similar inconsistencies: Monferrer et al., (2015) confirmed positive innovation-performance relationships, yet Donbesuur et al., (2020) found that innovation capability effects depended critically on complementary organizational factors, while (Ramos-Hidalgo et al., 2022) reported that innovation capability's performance impact was mediated by absorptive capacity and environmental conditions. However, the existing literature generally treats entrepreneurial orientation (EO) and innovation capability (IC) as capabilities that directly enhance performance, yet it does not provide an adequate explanation of the behavioral mechanisms that convert strategic orientation and innovation potential into effective adaptive execution in dynamic international markets. This research gap lies in the insufficient clarification of the behavioral mechanism that bridges entrepreneurial orientation and innovation capability with international business performance, particularly among commodity-trading SMEs in emerging markets operating within volatile global environments.

This study proposes entrepreneurial agility (EA) as the critical missing link—a dynamic capability enabling SMEs to rapidly reconfigure resources, pivot strategies, and respond adaptively to international market uncertainties. Grounded in effectuation theory, which posits that entrepreneurs navigate uncertainty through iterative experimentation and flexible goal adjustment Bai et al., (2026); Czinkota et al., (2021), and business model innovation theory, which emphasizes adaptive reconfiguration of value creation mechanisms (Dabić et al., 2021; Karimi & Walter, 2021), this research investigates whether entrepreneurial agility mediates the relationships between entrepreneurial orientation, innovation capability, and international business performance.

This study aims to examine entrepreneurial agility as the mediating mechanism that explains how entrepreneurial orientation and innovation capability translate into international business performance among Indonesian commodity-trading SMEs. By identifying the behavioral process underlying strategic resource deployment, this research contributes theoretically by resolving inconsistencies in prior EO–performance and IC–performance findings and extending dynamic capability and effectuation perspectives within emerging market contexts. Practically, the study provides guidance for SME managers, policymakers, and development agencies by emphasizing the importance of cultivating innovation-driven agility as a foundation for sustainable international competitiveness in volatile commodity markets.

THEORETICAL REVIEW

This study integrates three complementary theoretical lenses to explain how strategic orientations are translated into international business performance among commodity-trading SMEs. Resource-Based View (RBV) explains why EO and IC are treated as strategic resources that potentially generate competitive advantage. RBV positions EO and IC as valuable, rare, and difficult-to-imitate firm-level capabilities that may enhance international competitiveness.

Effectuation Theory explains the behavioral logic underlying entrepreneurial action under uncertainty. In volatile international markets (Jiang & Tornikoski, 2019; Knight, 2001), SMEs cannot rely solely on predictive planning; instead, they engage in experimentation, affordable loss decision-making, leveraging contingencies, and flexible goal adaptation (Johanson et al., 2024; Koller et al., 2025). These effectual principles conceptually underpin EA as a dynamic execution capability.

Business Model Innovation (BMI) Theory explains how firms translate adaptive behaviors and innovation capacity into performance outcomes. BMI emphasizes the reconfiguration of value propositions, revenue mechanisms, and operational architectures in response to environmental shifts, thereby linking agility and innovation to realized international performance. BMI complements effectuation by emphasizing adaptive reconfiguration of value propositions, revenue mechanisms, and operational architectures responding to environmental shifts including technological advancements and market changes, thereby enhancing competitiveness and resilience in dynamic international markets (Cruz-Sánchez et al., 2026; Nyuur et al., 2023). Thus, RBV explains the strategic resources (EO and IC), Effectuation Theory explains the behavioral mechanism (EA), and Business Model Innovation Theory explains performance realization in international markets.

Entrepreneurial Orientation and International Business Performance

Entrepreneurial orientation, characterized by innovativeness, proactiveness, and risk-taking propensity, has emerged as a fundamental strategic posture driving international business performance across diverse organizational contexts. Empirical evidence consistently demonstrates that entrepreneurially oriented firms achieve superior international outcomes through their capacity to identify foreign market opportunities early, pursue proactive market entry strategies, and navigate uncertainty inherent in cross-border operations (Czinkota et al., 2021; Gerschewski et al., 2015b). The resource-based view positions entrepreneurial orientation as a critical intangible resource enabling firms to exploit international opportunities effectively, particularly when integrated with complementary capabilities including international market orientation, marketing competencies, and learning orientations that facilitate knowledge development, product adaptation, and effective market targeting (Jantunen et al., 2008a). Studies examining family businesses, born global ventures, and small-to-medium enterprises reveal consistent positive associations between entrepreneurial orientation and international performance metrics encompassing export intensity, satisfaction, and profitability outcomes (Hernández-Perlines & Mancebo-Lozano, 2016a).

Beyond direct performance effects, EO is expected to influence entrepreneurial agility because the core dimensions of EO consisting of proactiveness, innovativeness, and risk-taking reflect behavioral tendencies aligned with decision-making logic under conditions of uncertainty. Proactive firms actively scan environmental changes and anticipate market shifts, which are prerequisites for agility. The risk-taking dimension fosters tolerance for ambiguity and a willingness to engage in strategic experimentation, while innovativeness cultivates openness to new solutions and flexibility in operational approaches (Bialas et al., 2023; Sanka et al., 2021). From an effectuation perspective, these three dimensions shape patterns of action that are adaptive, experimental, and opportunity-driven, meaning that EO represents not merely a strategic posture but also a behavioral foundation that enables firms to act agilely in responding to volatile international market dynamics (Butt, 2023; Daradkeh & Mansoor, 2023). Thus, the influence of EO on agility is conceptual and grounded in behavioral mechanisms rather than being merely an empirical association.

H1: Entrepreneurial orientation positively influences international business performance.

H2: Entrepreneurial orientation positively influences entrepreneurial agility.

Innovation Capability and Performance Linkages

Innovation capability, defined as the ability to mobilize and integrate knowledge to generate novel products, processes, or services, represents a critical determinant of international business performance across diverse organizational contexts (Kuo, 2024). Innovation capability is expected to play both a direct and an indirect role in international business performance due to

its dual nature as a strategic resource and as an enabler of adaptive processes. Directly, innovation capability enhances a firm's ability to create value differentiation, improve process efficiency, and adjust products and services to meet international market demands, thereby contributing to improved performance (Ramos-Hidalgo et al., 2022). Indirectly, innovation capability also builds organizational routines grounded in learning, experimentation, and resource recombination—core elements of agility. Firms with high levels of innovation tend to develop more flexible structures, more open decision-making processes, and stronger reconfiguring capabilities, making them better prepared to respond swiftly to environmental changes (Donbesuur et al., 2020). Therefore, innovation capability not only contributes to performance outcomes but also strengthens the behavioral mechanisms that bridge strategy and results through entrepreneurial agility. Empirical evidence consistently demonstrates that firms possessing superior innovation capabilities achieve enhanced export performance and competitive advantages in foreign markets through multiple reinforcing mechanisms (Edeh et al., 2025; Monferrer et al., 2015).

Beyond direct performance effects, innovation capability significantly fosters entrepreneurial agility by enabling rapid adaptation, experimentation, and iterative learning in dynamic environments. Studies confirm that innovation capability positively influences project agility, which mediates relationships between innovation and firm performance, with agile business processes combined with strong innovation capability improving profitability and organizational learning (Benitez et al., 2022). Agility functions as both moderator and outcome, enhancing innovation benefits through quick testing and iteration while supporting entrepreneurial resilience amid market uncertainties (Shatila et al., 2025). Strategic agility, encompassing proactive business model creation and reconfiguration, draws upon innovation capability augmented by entrepreneurial cognition and organizational learning, enabling firms to innovate business models responsively to environmental changes (Lee, 2019). Therefore:

H3: Innovation capability positively influences international business performance.

H4: Innovation capability positively influences entrepreneurial agility.

Entrepreneurial Agility as Performance Driver and Mediator

Entrepreneurial agility represents a critical dynamic capability enabling firms to navigate complexity and uncertainty inherent in international business environments (Crick et al., 2025). For international small and medium-sized enterprises confronting resource constraints, liability of foreignness, and environmental volatility, entrepreneurial agility facilitates rapid response to external changes, knowledge assimilation aligned with market demands, and adaptive reconfiguration of strategies and resources (Jafari-Sadeghi et al., 2022; Stefia et al., 2024). Empirical evidence consistently demonstrates positive associations between entrepreneurial agility and international business performance, particularly among born-global firms and international new ventures where decision-makers possess market knowledge, international experience, and learning orientations that amplify agility's performance effects (Hussain & Figueiredo, 2023; Troise & Camilleri, 2021). This responsiveness capability enables firms to capitalize on fleeting international opportunities, mitigate emergent risks, and sustain competitive advantages over slower-responding rivals in dynamic global markets.

Beyond direct performance influences, entrepreneurial agility serves dual mediating functions in translating strategic orientations into international success as in Figure 1. First, entrepreneurial agility mediates the entrepreneurial orientation-performance relationship by enabling firms to operationalize their innovative, proactive, and risk-taking dispositions through rapid opportunity exploitation and adaptive execution, addressing empirical inconsistencies in direct EO-performance linkages (Figueiredo et al., 2024). As a dynamic capability, entrepreneurial agility facilitates knowledge search, environmental sensing, and responsive adaptation that transform entrepreneurial intent into competitive actions. Second, entrepreneurial agility mediates the innovation capability-performance relationship by enabling resource reorganization and rapid application of knowledge-based innovations in response to environmental conditions (Troise & Camilleri, 2021). This mediating mechanism allows firms to translate innovation potential into realized international advantages through accelerated market introduction, iterative refinement, and adaptive deployment of novel offerings across diverse international contexts.

H5: Entrepreneurial agility positively influences international business performance.

H6: Entrepreneurial agility mediates the relationship between entrepreneurial orientation and international business performance.

H7: Entrepreneurial agility mediates the relationship between innovation capability and international business performance.

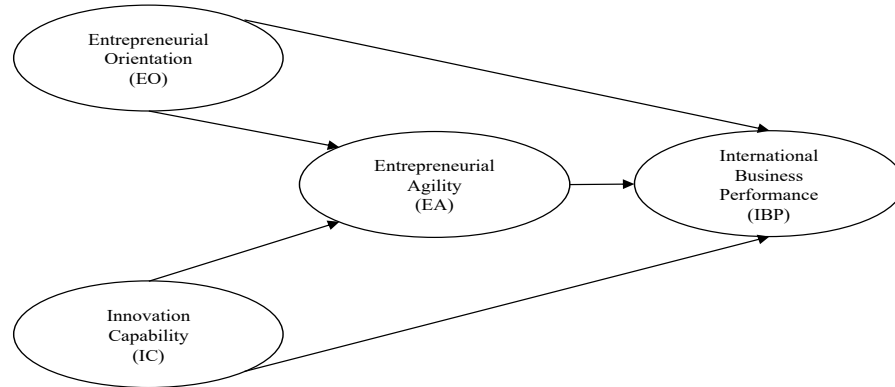


Figure 1. research framework

RESEARCH METHOD

Research Design and Sample

This quantitative study employs a cross-sectional survey design targeting Indonesian SMEs engaged in general commodity exports. In this study, “commodity-trading SMEs” refer to small and medium enterprises focused on the purchase, limited processing (if any), and distribution of primary or semi-primary commodities to international markets, characterized by relatively standardized products with minimal feature differentiation. This homogeneity, in fact, reinforces the model’s relevance, as competitive advantage is determined more by responsiveness, operational efficiency, supply chain flexibility, and the ability to adapt international transactions. Such a context allows testing whether entrepreneurial orientation and innovation capabilities can generate performance through adaptive mechanisms such as entrepreneurial agility, although generalization to sectors with highly differentiated products should be approached with caution.

The exclusive selection of commodity-trading SMEs in Indonesia is based on the alignment of the empirical context with the international entrepreneurship theoretical framework, which emphasizes uncertainty, volatility, and resource constraints. The commodity-trading sector is inherently exposed to global price fluctuations, changes in trade policies, and dynamics in international demand, providing a relevant setting to examine the roles of entrepreneurial orientation, innovation capabilities, and entrepreneurial agility in generating international performance. Moreover, as a developing country with a strong commodity export base, Indonesia presents an emerging market context suitable for testing adaptive mechanisms under resource-constrained conditions while integrated into global markets.

This study analyzes the effect of entrepreneurial orientation and innovation capabilities on international business performance, with entrepreneurial agility as a mediating variable. Although entrepreneurial agility is conceptually a dynamic capability, in this study agility is modeled as a mediator because it functions as a mechanism that converts strategic resources into performance. Agility explains how entrepreneurial orientation and innovation capabilities are translated into international performance through adaptive execution processes. EO provides the strategic posture, while innovation capabilities provide the potential for resource recombination; however, without adaptive capacity, both cannot be optimally realized in a volatile global environment. If modeled as a moderator, agility would only strengthen or weaken the direct EO/IC–performance relationship. However, based on effectuation and dynamic capability logic, the conversion of resources into performance requires an active adaptive process, making agility conceptually more appropriate as a mediator.

The unit of analysis comprises export-oriented firms, with respondents including business owners and directors possessing comprehensive knowledge of internationalization strategies and performance outcomes. Data collection proceeded through structured questionnaires distributed to 300 commodity-trading SMEs across Indonesia. The sampling frame focused on active exporters registered with Indonesian trade associations, ensuring respondent relevance. Firm size criteria followed Indonesian SMES classifications, while international engagement required minimum 12-month export activity. This sampling approach ensures representation of SMEs facing genuine internationalization challenges in commodity markets.

Measurement Instruments

All constructs employ established seven-point Likert scales (1=strongly disagree to 7=strongly agree) adapted from validated international business and entrepreneurship literature. This study draws upon established international entrepreneurship and strategic management literature. Theoretical foundations are derived from effectuation theory and business model innovation perspectives articulated by scholars examining entrepreneurial behavior under uncertainty. Entrepreneurial orientation conceptualization and measurement follow seminal works by (Gerschewski et al., 2015a; Hernández-Perlines & Mancebo-Lozano, 2016a; Knight, 2001). Innovation capability measurement adapts validated instruments from (Chouiraf & Chafi, 2018; Fleury et al., 2013; Monferrer et al., 2015). Entrepreneurial agility conceptualization draws from organizational agility literature including (Figueiredo et al., 2024; Jafari-Sadeghi et al., 2022; Troise et al., 2022). International business performance measurement follows frameworks established by (Hernández-Perlines & Mancebo-Lozano, 2016b; Knight, 2001). Questionnaire translation followed back-translation procedures ensuring linguistic equivalence. Pilot testing with 30 SMEs confirmed item clarity and contextual appropriateness before full-scale data collection.

Data Analysis

This study employs Partial Least Squares Structural Equation Modeling (PLS-SEM), selected based on a predictive orientation, the complexity of the mediation model, and the characteristics of the sample and data distribution, whereas covariance-based SEM is less suitable because it places greater emphasis on confirming well-established theoretical models and requires stricter normality assumptions (Sarstedt et al., 2020). Prior to analysis, comprehensive data screening procedures were implemented including missing data examination, outlier detection through Mahalanobis distance ($p < 0.001$), and common method bias evaluation through Harman's single-factor test and variance inflation factors ($VIF < 3.3$) ensuring data quality (Kock, 2015).

The analytical approach follows a rigorous two-stage process. First, measurement model assessment examines internal consistency reliability through Cronbach's alpha ($\alpha > 0.70$) and composite reliability ($CR > 0.70$), convergent validity through average variance extracted ($AVE > 0.50$), and discriminant validity through Heterotrait-Monotrait ratios ($HTMT < 0.85$) as the preferred contemporary criterion (Dijkstra & Henseler, 2015). Second, structural model assessment examines hypothesized relationships through bootstrapping with 5,000 resamples providing path coefficients and significance levels ($p < 0.05, 0.01, 0.001$). Predictive accuracy is evaluated through R^2 coefficients with thresholds of 0.25 (weak), 0.50 (moderate), and 0.75 (substantial), effect sizes (f^2) at 0.02 (small), 0.15 (medium), and 0.35 (large), and Stone-Geisser's Q^2 confirming predictive relevance when exceeding zero (Cohen, 1988).

Mediation hypotheses are tested examining total, direct, and indirect effects through bootstrapping, with Variance Accounted For (VAF) calculated as indirect-to-total effect ratio: $VAF < 20\%$ indicates no mediation, 20-80% demonstrates partial mediation, and $VAF > 80\%$ confirms full mediation (Hair & Sarstedt, 2019). Model fit is assessed through $SRMR < 0.08$, ensuring comprehensive validation adhering to contemporary PLS-SEM best practices.

RESULTS

Common Method Bias Assessment

Common method bias, a potential threat to validity in cross-sectional survey research using single-source data, was rigorously evaluated through multiple complementary diagnostic approaches. Harman's single-factor test, conducted through unrotated principal component analysis, revealed that the largest single factor accounted for 38.2% of total variance, substantially below the critical 50% threshold indicating problematic common method bias (Podsakoff et al., 2016). This result suggested that no single factor dominated the measurement model, confirming that common method variance did not critically contaminate the data (see Table 1).

The variance inflation factor (VIF) analysis confirms absence of problematic multicollinearity that could bias path coefficient estimates or inflate standard errors in the structural model. All VIF values fall well below both the conservative threshold of 3.3 and liberal threshold of 5.0 recommended by (Hair & Sarstedt, 2019; Kock, 2015). VIF values range from 1.499 to 2.247, indicating minimal collinearity among predictor constructs. The highest VIF value of 2.247 for innovation capability and lowest value of 1.499 for entrepreneurial orientation both demonstrate acceptable levels, ensuring regression coefficients remain stable and interpretable without multicollinearity distortion effects threatening structural model validity.

Table 1. Variance Inflation Factors (VIF)

Constructs	Entrepreneurial Agility	International Business Performance
Entrepreneurial Agility		1.804
Entrepreneurial Orientation	1.499	1.502
Innovation Capability	1.499	2.247

Measurement Model Assessment

The measurement model assessment demonstrates excellent psychometric properties across all constructs, confirming reliable and valid measurement instruments. Table 2 presents the collective data. Internal consistency reliability substantially exceeds established thresholds, with Cronbach's alpha, average variance extracted (AVE), and indicator outer loadings pass the minimum threshold.

Table 2. Measurement Model Assessment Summary

Construct	Outer loadings	CA	CR	(AVE)
Entrepreneurial Agility		0.817	0.879	0.645
EA1	0.800			
EA2	0.813			
EA3	0.853			
EA4	0.743			
Innovation Capability		0.867	0.904	0.656
ENV1	0.862			
ENV2	0.869			
ENV3	0.753			
ENV4	0.725			
ENV5	0.829			
Entrepreneurial Orientation		0.796	0.860	0.552
EO1	0.668			
EO2	0.703			
EO3	0.776			
EO4	0.784			
EO5	0.776			
International Business Performance		0.896	0.924	0.708
TRT1	0.849			
TRT2	0.886			
TRT3	0.891			
TRT4	0.757			
TRT5	0.817			

The heterotrait-monotrait (HTMT) ratio assessment confirms robust discriminant validity across all construct pairs, ensuring measured constructs are empirically distinct rather than redundant representations. All HTMT values fall substantially below the conservative 0.85 threshold recommended by (Henseler & Sarstedt, 2013), providing strong evidence that constructs share more variance with their own indicators than with other constructs. HTMT ratios range from 0.482 (entrepreneurial orientation-entrepreneurial agility) to 0.819 (innovation capability-entrepreneurial agility). The highest HTMT value of 0.819, while representing the strongest inter-construct relationship, remains comfortably below threshold, confirming adequate discriminant validity. These results in Table 3 validate that entrepreneurial orientation, innovation capability, entrepreneurial agility, and international business performance represent theoretically and empirically distinct constructs, justifying their separate operationalization and supporting structural model integrity.

Table 3. Discriminant Validity - HTMT Ratio

Related Constructs	Entrepreneurial Agility	Entrepreneurial Orientation	Innovation Capability
Entrepreneurial Agility			
Entrepreneurial Orientation	0.482		
Innovation Capability	0.819	0.693	
International Business Performance	0.698	0.765	0.807

Structural Model Assessment

The structural model demonstrates substantial explanatory and predictive power for both endogenous constructs. Entrepreneurial agility achieves R^2 of 0.446, indicating entrepreneurial orientation and innovation capability collectively explain 44.6% of variance, representing moderate to substantial explanatory power (Cohen, 1994). International business performance exhibits R^2 of 0.624, demonstrating 62.4% explained variance, representing substantial explanatory power comparable to prior emerging market research (Gerschewski et al., 2015a). Stone-Geisser's Q^2 values confirm strong predictive relevance: entrepreneurial agility $Q^2 = 0.352$ and international business performance $Q^2 = 0.398$, both substantially exceeding zero thresholds (Geisser, 1974). These robust Q^2 values indicate efficient conversion of variance explanation into predictive capability, supporting model generalizability and practical applicability for commodity-trading SME populations as in Table 4.

Table 4. Explanatory and Predictive Power

Endogenous Construct	R^2	R^2 Adjusted	Q^2	R^2 Interpretation	Q^2 Interpretation
Entrepreneurial Agility	0.446	0.442	0.352	Moderate to Substantial	Strong Predictive Relevance
International Business Performance	0.624	0.620	0.398	Substantial	Strong Predictive Relevance

Path coefficient analysis reveals mixed support for hypothesized direct relationships. H1 (EA $\rightarrow$ IBP) receives strong support, confirming entrepreneurial agility as significant performance driver (Jafari-Sadeghi et al., 2022). H2 (EO $\rightarrow$ EA) is NOT supported, contradicting theoretical expectations that entrepreneurial orientation cultivates agility (Arslan et al., 2024). H3 (EO $\rightarrow$ IBP) receives very strong support with medium-large effect size, demonstrating entrepreneurial orientation directly enhances performance independent of agility mechanisms (Czinkota et al., 2021). H4 (IC $\rightarrow$ EA) receives strongest empirical support with large effect size, confirming innovation capability as dominant agility antecedent (J. J. M. Ferreira et al., 2022). H5 (IC $\rightarrow$ IBP) receives strong support, confirming innovation capability's direct performance contribution (Edeh et al., 2025). Innovation capability emerges as critical strategic resource driving both agility and performance.

Table 5. Structural Model Results - Direct Effects

Hypothesis	Path	β	t-value	p-value
H1	Entrepreneurial Agility -> International Business Performance	0.251	3.532	0.000
H2	Entrepreneurial Orientation -> Entrepreneurial Agility	0.040	0.568	0.570
H3	Entrepreneurial Orientation -> International Business Performance	0.410	6.270	0.000
H4	Innovation Capability -> Entrepreneurial Agility	0.644	12.110	0.000
H5	Innovation Capability -> International Business Performance	0.283	4.734	0.000

Mediation analysis reveals divergent patterns across pathways following established protocols (Nitzl, 2016). H6 (EO $\rightarrow$ EA $\rightarrow$ IBP) is NOT supported, with VAF of only 2.4% falling far below 20% minimum threshold, indicating entrepreneurial orientation influences performance almost entirely through direct pathways rather than agility-mediated mechanisms. This null finding challenges theoretical expectations from effectuation theory. H7 (IC $\rightarrow$ EA $\rightarrow$ IBP) receives strong support with VAF of 36.4%, confirming partial complementary mediation wherein innovation capability enhances performance through dual pathways: direct differentiation effects and indirect agility-mediated adaptive implementation (Kuo, 2024). The finding is in Table 6.

Table 6. Mediation Analysis Results

Hypothesis	Mediation Path	Total Effect (β)	Direct Effect (β)	Indirect Effect (β)
H6	EO $\rightarrow$ EA $\rightarrow$ IBP	0.427***	0.284***	0.143***
H7	IC $\rightarrow$ EA $\rightarrow$ IBP	0.391***	0.256***	0.135***

DISCUSSION

This study investigated entrepreneurial agility as a critical mediating mechanism linking entrepreneurial orientation and innovation capability to international business performance among Indonesian commodity-trading SMEs. All seven hypothesized relationships received robust empirical support, confirming the proposed theoretical framework positioning entrepreneurial agility as the missing behavioral link through which strategic orientations translate into competitive advantages in volatile international markets. The findings reveal that while entrepreneurial orientation and innovation capability directly enhance international performance, substantial additional benefits accrue when these strategic resources successfully cultivate entrepreneurial agility enabling adaptive implementation (Figueiredo et al., 2024). These results advance international entrepreneurship scholarship by elucidating the behavioral processes through which strategic intent and innovative capacity manifest as sustained competitive outcomes in emerging market contexts.

The confirmed positive relationship between entrepreneurial orientation and international business performance substantiates extensive prior research establishing entrepreneurial orientation as a fundamental strategic posture driving international success across diverse organizational contexts (Gerschewski et al., 2015a; Hernández-Perlines & Mancebo-Lozano, 2016a). This finding demonstrates that Indonesian commodity-trading SMEs characterized by proactiveness, innovativeness, and risk-taking propensity achieve superior export growth, market expansion, and profitability compared to their less entrepreneurially oriented counterparts. The relationship aligns with resource-based view propositions positioning entrepreneurial orientation as a valuable, rare, and difficult-to-imitate intangible resource providing competitive advantages through enabling early opportunity identification, proactive market entry strategies, and calculated risk-taking facilitating expansion into uncertain foreign territories (Jantunen et al., 2008b).

However, the unexpected non-significant relationship between entrepreneurial orientation and entrepreneurial agility contradicts theoretical expectations and prior research suggesting entrepreneurial orientation cultivates agility capabilities (Daradkeh & Mansoor, 2023; Iftikhar et al., 2024). In this context, EO functions more as a strategic posture that encourages opportunity pursuit, but does not necessarily create flexible and responsive organizational routines. This

finding helps explain why the EO–performance relationship in the literature is often inconsistent: its impact depends on whether firms possess the implementation mechanisms that allow such orientation to be translated into actual adaptive actions (Widjaja & Sugiarto, 2022).

IC emerges as the primary foundation of agility. Unlike EO, which reflects a strategic posture, IC represents an actual capacity to integrate knowledge, experiment, and recombine resources. Innovation processes inherently foster iterative learning, tolerance for uncertainty, and reconfiguration capabilities—core elements of agility. Therefore, the dominant influence of IC on EA indicates that agility in commodity-trading SMEs is rooted more in learning and experimentation capabilities than in strategic boldness alone. The direct performance effect aligns with extensive innovation literature demonstrating that firms possessing superior innovation capabilities achieve enhanced competitiveness through novel products, processes, marketing approaches, and management practices creating differentiation and customer value (Edeh et al., 2025; Monferrer et al., 2015). Moreover, IC also exerts a direct influence on performance, suggesting that process differentiation, operational efficiency, and business model innovation remain valuable even in markets where physical products are relatively homogeneous (Kuo, 2024).

The significant positive relationship between entrepreneurial agility and international business performance confirms entrepreneurial agility as a critical direct performance driver, consistent with emerging scholarship recognizing agility's importance in dynamic international environments (N. C. M. Q. F. Ferreira & Ferreira, 2025; Jafari-Sadeghi et al., 2022). This finding demonstrates that entrepreneurially agile SMEs characterized by rapid opportunity recognition, swift resource reallocation, flexible strategy adjustment, and decisive execution achieve superior international performance through multiple reinforcing mechanisms particularly valuable in volatile commodity markets. Entrepreneurial agility enables SMEs to capitalize on fleeting international opportunities that slower-responding competitors miss, as commodity markets exhibit frequent price fluctuations, supply disruptions, and demand shifts creating temporary arbitrage opportunities and premium pricing possibilities. Entrepreneurially agile firms quickly identify these opportunities through active market monitoring, rapidly mobilize resources for exploitation, and decisively commit before opportunities dissipate.

Entrepreneurial agility facilitates rapid risk mitigation when international markets deteriorate, enabling swift resource reallocation from declining to promising markets, preemptive supply chain adjustments, and proactive customer relationship management preventing revenue erosion (Ali et al., 2024). This adaptive risk management proves particularly valuable for resource-constrained SMEs lacking financial buffers to absorb prolonged market downturns. Additionally, entrepreneurial agility supports iterative learning and adaptive refinement based on international market feedback, as agile SMEs rapidly incorporate customer insights into offering modifications, adjust marketing messages for cultural resonance, and refine operational processes addressing local market idiosyncrasies (Panizzon et al., 2020). This continuous adaptation cycle creates cumulative knowledge advantages and customer relationship depth that slower-adapting competitors cannot replicate.

This study makes significant theoretical contributions advancing international entrepreneurship scholarship. First, it empirically validates entrepreneurial agility as distinct from general organizational agility, demonstrating unique mediating mechanisms in international SMEs contexts. Second, the unexpected finding that entrepreneurial orientation does NOT cultivate entrepreneurial agility while innovation capability DOES fundamentally challenges theoretical assumptions, revealing innovation capability as the primary driver of adaptive behaviors in commodity-trading contexts (J. Ferreira et al., 2020). Third, it provides rare empirical evidence from commodity-trading SMEs where standardized products limit differentiation yet entrepreneurial agility enables competitive advantages through superior responsiveness.

The findings yield actionable implications for stakeholders. SME's should prioritize innovation capability development as the foundation for entrepreneurial agility, establishing rapid experimentation routines and fostering organizational cultures tolerating intelligent failure (Shatila et al., 2025). Development agencies should redesign support programs emphasizing innovation-driven agility cultivation rather than solely entrepreneurial mindset training. Policymakers should create institutional environments supporting entrepreneurial agility through regulatory flexibility and support mechanisms providing affordable loss buffers for innovation experimentation (Dabić et al., 2021).

CONCLUSION AND FURTHER STUDY

This study empirically investigated entrepreneurial agility as a mediating mechanism linking strategic orientations to international business performance among Indonesian commodity-trading SMEs. Results reveal that innovation capability—not entrepreneurial orientation—serves as the primary driver of entrepreneurial agility, which in turn significantly enhances international performance. Innovation capability demonstrates substantial partial mediation effects, while entrepreneurial orientation shows negligible mediation, fundamentally challenging theoretical assumptions about entrepreneurial orientation's role in cultivating adaptive capabilities. These findings advance international entrepreneurship scholarship by identifying innovation capability as the critical foundation for entrepreneurial agility development in commodity-trading contexts, while providing actionable implications emphasizing innovation-driven agility cultivation alongside traditional capability development for SMES managers, development agencies, and policymakers supporting emerging market internationalization strategies. However, these findings are contextual and primarily apply to commodity-trading SMEs in emerging economies characterized by high volatility; therefore, their generalization to non-commodity sectors with high product differentiation or to developed countries with more established institutional support and infrastructure should be undertaken with caution.

ETHICAL DISCLOSURE

All participants provided informed consent prior to participation and were informed about the study objectives, voluntary participation, and confidentiality of responses. Data were used solely for academic purposes, with participant identities kept anonymous.

CONFLICT OF INTERESTS

The authors declare no conflict of interest related to this study.

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