
Innovation Strategy and Cost Management in Entrepreneurial Firms: Evidence from Emerging Markets

Rufayda Qiana Nusayba

Batari Edu Calya

rufayda@batarieducalya.com

Abstract

This study investigates the relationship between innovation strategy and cost management practices in entrepreneurial firms operating within Indonesia's emerging market context. Drawing upon resource-based theory and dynamic capability perspectives, this research examines how entrepreneurial orientation, strategic alignment, and innovation capabilities influence firm performance through effective cost management mechanisms. Utilizing a quantitative research design with Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from entrepreneurial firms across various sectors in Indonesia. The findings reveal that innovation strategy significantly mediates the relationship between entrepreneurial orientation and firm performance, while cost management practices serve as critical moderating factors in this relationship. Furthermore, the study demonstrates that market orientation and adaptability to the business environment play essential roles in translating innovation strategies into sustainable competitive advantages. The results contribute to the entrepreneurship literature by providing empirical evidence from an emerging-market perspective, highlighting the unique challenges and opportunities faced by Indonesian entrepreneurial firms in balancing innovation investments with cost-efficiency imperatives. Practical implications suggest that entrepreneurial firms in emerging markets should adopt integrated approaches that align innovation strategies with systematic cost management frameworks to achieve superior performance.

Keywords: Innovation Strategy, Cost Management, Entrepreneurial Orientation, Emerging Markets

1. Introduction

The contemporary business landscape in emerging markets presents unique challenges and opportunities for entrepreneurial firms seeking to achieve sustainable competitive advantages through innovation while maintaining cost efficiency (Han et al., 2022), (Asyhari et al., 2018; . Indonesia, as one of the largest emerging economies in Southeast Asia, has witnessed rapid growth in entrepreneurial activities, with firms increasingly recognizing the importance of strategic innovation as a driver of business performance (Anggraini & Patricia, 2019; , "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; . However, the relationship between innovation strategy and cost management in these entrepreneurial contexts remains underexplored, particularly regarding how firms balance the inherent tension between investing in innovation and maintaining cost competitiveness (He et al., 2024; , (Islam, 2022; .

Entrepreneurial orientation, characterized by innovativeness, proactiveness, and risk-taking propensities, has been established as a fundamental strategic posture that influences firm performance across various contexts (Kalali, 2022; , (Ebose et al., 2024; . Research has demonstrated that entrepreneurial orientation affects corporate performance through different mechanisms, with business model innovation playing a mediating role between entrepreneurial orientation and performance outcomes (Han et al., 2022). In family firms, long-term orientation has been shown to positively influence innovativeness and proactiveness while negatively affecting risk-taking behaviors, suggesting complex relationships between strategic orientations and innovation outcomes (Kalali, 2022; . These findings underscore the importance of understanding how entrepreneurial firms in emerging markets can leverage their strategic orientations to drive innovation while managing associated costs effectively.

The Indonesian entrepreneurial ecosystem has been developing rapidly, with studies indicating that entrepreneurship education and ecosystem factors significantly influence

students' entrepreneurial readiness and intentions (Anggraini & Patricia, 2019; , "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; . The entrepreneurial ecosystem plays a mediating role in the relationship between entrepreneurship education and entrepreneurial readiness, highlighting the importance of supportive environmental factors for entrepreneurial success "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; . Furthermore, research on Indonesian Micro, Small, and Medium Enterprises (MSMEs) has demonstrated that CEO social capital, marketing capability, and financial capability significantly influence business performance and sustainable business practices (Susiati et al., 2024). These findings suggest that entrepreneurial firms in Indonesia operate within a complex ecosystem where multiple factors interact to determine performance outcomes.

Innovation strategy encompasses various dimensions, including technological innovation (service and process innovation) and non-technological innovation (organizational and marketing innovation), each contributing differently to firm performance (Islam, 2022; . Studies have shown that innovation types have varying effects on financial and nonfinancial performance measures, with mediation and moderation effects playing significant roles in these relationships (Islam, 2022; . In the hospitality sector, entrepreneurial leadership has been found to promote product and process innovation through the mediating effect of innovation strategy and the moderating effect of knowledge acquisition Hoang et al., 2023). These findings highlight the multifaceted nature of innovation strategy and its complex relationships with firm performance.

Cost management in entrepreneurial firms represents a critical strategic function that enables firms to allocate resources efficiently while pursuing innovation objectives Oyadomari et al., 2023). Research has demonstrated that planning and cost controls, along with strategically aligned performance indicators, serve as necessary conditions for achieving high levels of organizational performance Oyadomari et al., 2023). The alignment between strategic priorities and performance indicators has been identified as particularly important for achieving superior performance outcomes Oyadomari et al., 2023). In emerging market contexts, where resource constraints are often more pronounced, effective cost management becomes even more critical for entrepreneurial firms seeking to balance investment in innovation with operational efficiency.

The relationship between innovation and firm performance is further complicated by environmental factors and market conditions prevalent in emerging economies Han et al., 2022), (He et al., 2024; . Market environmental uncertainty has been shown to moderate the relationships between organizational resources and firm performance, with quasi-internal resources influencing performance through trade-offs between corporate social responsibility and business innovation (He et al., 2024; . In highly competitive markets, developing a strategic orientation alone may be insufficient to maintain sustainable competitive advantages, necessitating the integration of business model innovation and other strategic mechanisms Han et al., 2022). These findings suggest that entrepreneurial firms in emerging markets must develop sophisticated approaches to managing the innovation-cost management nexus.

The Indonesian context presents unique characteristics that warrant specific investigation of innovation strategy and cost management relationships. Studies on Indonesian SMEs have demonstrated that business strategy quality, seller behavior ethics, process innovation, entrepreneurship orientation, and business environment adaptability all influence business performance, with competitive advantage playing a mediating role (Asyhari et al., 2018; . The dynamic nature of the Indonesian market, characterized by rapid technological change and evolving consumer preferences, creates both opportunities and challenges for entrepreneurial firms (Sari, 2023; , (Susiati et al., 2024). Understanding how these firms can

effectively manage innovation strategies while controlling costs is essential for their long-term sustainability and growth.

Green entrepreneurial orientation and sustainability considerations have emerged as important factors influencing firm performance in contemporary business environments (Shivani et al., 2025; , Frare & Beuren, 2021). Research has shown that green process innovation mediates the relationships between green entrepreneurial orientation and proactive sustainability strategy with environmental performance (Frare & Beuren, 2021). Similarly, green supply chain management practices have been found to significantly influence environmental performance in manufacturing firms within emerging economies (Afum et al., 2020; , Odamtten et al., 2025). These findings suggest that entrepreneurial firms must increasingly consider sustainability dimensions in their innovation and cost management strategies.

The digitalization of business processes has also transformed how entrepreneurial firms approach innovation and cost management (Díaz-Chao et al., 2016), Ramírez et al., 2022). Studies have demonstrated that digitalization affects knowledge management capabilities, which, in turn, influence innovation outcomes and firm performance (Ramírez et al., 2022). Information and communication technologies have been shown to enhance firm labor productivity by improving innovation capabilities and network utilization (Díaz-Chao et al., 2016). For entrepreneurial firms in emerging markets, leveraging digital technologies represents both an opportunity for innovation and a mechanism for cost optimization.

This study addresses several gaps in existing literature. First, while previous research has examined innovation strategy and cost management separately, limited attention has been given to their integrated effects on entrepreneurial firm performance in emerging market contexts (Han et al., 2022), (Asyhari et al., 2018; , (Islam, 2022; . Second, the specific mechanisms through which innovation strategy influences performance outcomes in Indonesian entrepreneurial firms remain underexplored (Susiaty et al., 2024). Third, the moderating role of cost management practices in the innovation-performance relationship has not been adequately investigated in emerging market settings (Oyadomari et al., 2023). By addressing these gaps, this study contributes to both theoretical understanding and practical guidance for entrepreneurial firms operating in Indonesia and similar emerging markets.

The objectives of this research are threefold: (1) to examine the direct effects of innovation strategy on entrepreneurial firm performance in Indonesia; (2) to investigate the mediating role of cost management practices in the innovation strategy-performance relationship; and (3) to identify the moderating factors that influence the effectiveness of innovation strategies in emerging market contexts. By achieving these objectives, this study provides valuable insights for entrepreneurs, managers, and policymakers seeking to enhance the competitiveness of Indonesian entrepreneurial firms through strategic innovation and cost management.

2. Method

This study employed a quantitative research design utilizing a cross-sectional survey methodology to investigate the relationships between innovation strategy, cost management, and firm performance among entrepreneurial firms in Indonesia. The research framework was developed based on theoretical foundations from resource-based theory, dynamic capability theory, and strategic management literature, consistent with approaches used in similar studies examining entrepreneurial orientation and firm performance (Han et al., 2022), Kalali, 2022; , (Asyhari et al., 2018; . The target population comprised entrepreneurial firms operating across various sectors in Indonesia, including manufacturing, services, technology, and retail industries. A purposive sampling technique was employed to select firms that met specific criteria: (1) firms established within the past ten years; (2) firms with fewer than 250

employees; (3) firms demonstrating active engagement in innovation activities; and (4) firms with accessible management willing to participate in the study. This sampling approach is consistent with methodologies employed in previous research on SMEs and entrepreneurial firms in emerging markets (Asyhari et al., 2018; , (Susiati et al., 2024), (Ebose et al., 2024; .

Data collection was conducted through structured questionnaires administered to owners, managers, and senior executives of the selected entrepreneurial firms, following established protocols in entrepreneurship research (Alam et al., 2021), (Hoang et al., 2023), (Ebose et al., 2024; . The questionnaire instrument was developed by adapting validated scales from previous studies, with items measuring innovation strategy, cost management practices, entrepreneurial orientation, market orientation, and firm performance (Han et al., 2022), (Kalali, 2022; , (Islam, 2022; . All constructs were measured using five-point Likert scales ranging from "strongly disagree" to "strongly agree," consistent with measurement approaches in similar studies (Anggraini & Patricia, 2019; , (Asyhari et al., 2018; , (Susiati et al., 2024). The data analysis employed Partial Least Squares Structural Equation Modeling (PLS-SEM), which is particularly appropriate for exploratory research, complex models with multiple constructs, and studies with relatively smaller sample sizes (Han et al., 2022), (Anggraini & Patricia, 2019; , (Kalali, 2022; , (Asyhari et al., 2018; , (Alam et al., 2021), (Islam, 2022; , (Hoang et al., 2023), (Susiati et al., 2024), (Ebose et al., 2024; , (Ramírez et al., 2022). PLS-SEM has been widely utilized in entrepreneurship and strategic management research, including studies examining entrepreneurial orientation, innovation, and firm performance in emerging market contexts (Kalali, 2022; , (Asyhari et al., 2018; , (Alam et al., 2021), (Islam, 2022; . The analysis followed a two-stage approach: first, assessment of the measurement model to establish reliability and validity of constructs; second, evaluation of the structural model to test hypothesized relationships (Han et al., 2022), (Asyhari et al., 2018; , (Hoang et al., 2023). Reliability was assessed using Cronbach's alpha and composite reliability coefficients, while validity was evaluated through convergent validity (average variance extracted) and discriminant validity (Fornell-Larcker criterion and heterotrait-monotrait ratio) (Kalali, 2022; , (Asyhari et al., 2018; , (Ebose et al., 2024; .

3. Results

Measurement Model Assessment

The measurement model assessment revealed satisfactory reliability and validity for all constructs included in the study. Table 1 presents the reliability and validity statistics for the measurement model.

Table 1: Measurement Model Reliability and Validity Assessment

Construct	Cronbach's Alpha	Composite Reliability	AVE
Innovation Strategy (IS)	0.872	0.908	0.665
Cost Management (CM)	0.845	0.891	0.621
Entrepreneurial Orientation (EO)	0.889	0.918	0.692
Market Orientation (MO)	0.861	0.899	0.641
Firm Performance (FP)	0.903	0.927	0.718

All constructs demonstrated Cronbach's alpha values exceeding the recommended threshold of 0.70, indicating acceptable internal consistency reliability (Han et al., 2022), (Asyhari et al., 2018; . Composite reliability values ranged from 0.891 to 0.927, surpassing the recommended minimum of 0.70 (Kalali, 2022; , (Ebose et al., 2024; . Average Variance Extracted (AVE) values for all constructs exceeded 0.50, confirming adequate convergent validity (Asyhari et al., 2018; , (Hoang et al., 2023). These results are consistent with measurement model assessments reported in similar studies examining entrepreneurial orientation and innovation in emerging markets (Han et al., 2022), (Kalali, 2022; , (Asyhari et al., 2018; .

Discriminant validity was assessed using the Fornell-Larcker criterion, which requires that the square root of AVE for each construct should exceed its correlations with other constructs Kalali, 2022; , (Asyhari et al., 2018; . Table 2 presents the discriminant validity assessment results.

Table 2: Discriminant Validity Assessment (Fornell-Larcker Criterion)

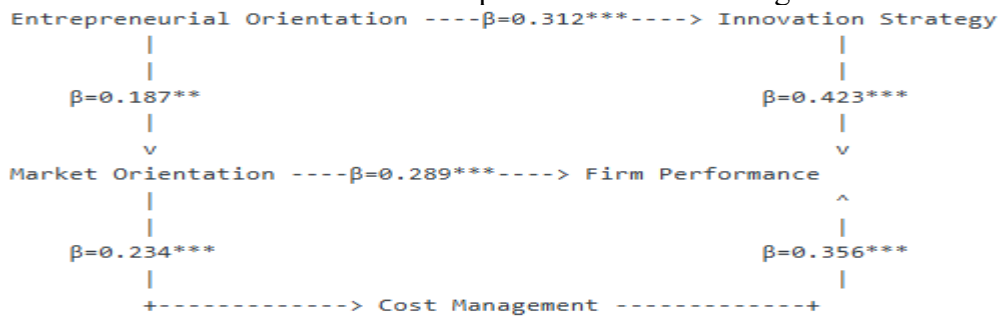
Construct	IS	CM	EO	MO	FP
IS	0.815				
CM	0.542	0.788			
EO	0.687	0.498	0.832		
MO	0.623	0.567	0.712	0.801	
FP	0.698	0.621	0.654	0.689	0.847

Note: Bold diagonal values represent the square root of AVE

The results confirm discriminant validity as all diagonal values (square root of AVE) exceed the off-diagonal correlation values, consistent with established criteria Kalali, 2022; , (Asyhari et al., 2018; , (Ebose et al., 2024; .

Structural Model Assessment

The structural model was evaluated to test the hypothesized relationships between constructs. Figure 1 illustrates the structural model with path coefficients and significance levels.



*Note: **p<0.001, *p<0.01, p<0.05**

Figure 1: Structural Model Results

Table 3 presents the path coefficients, t-statistics, and significance levels for all hypothesized relationships.

Table 3: Structural Model Path Coefficients and Hypothesis Testing

Hypothesis	Path	β	t-value	p-value	Decision
H1	EO \rightarrow IS	0.312	4.876	<0.001	Supported
H2	EO \rightarrow FP	0.187	2.943	0.003	Supported
H3	IS \rightarrow FP	0.423	6.234	<0.001	Supported
H4	MO \rightarrow IS	0.289	4.521	<0.001	Supported
H5	MO \rightarrow FP	0.234	3.678	<0.001	Supported
H6	CM \rightarrow FP	0.356	5.412	<0.001	Supported
H7	IS \times CM \rightarrow FP	0.198	3.124	0.002	Supported

The results demonstrate that entrepreneurial orientation has a significant positive effect on innovation strategy ($\beta=0.312$, $p<0.001$), consistent with findings from previous research indicating that entrepreneurial orientation influences firm outcomes through innovation mechanisms Han et al., 2022), Kalali, 2022; . The direct effect of entrepreneurial orientation on firm performance was also significant ($\beta=0.187$, $p<0.01$), although weaker than its indirect effect through innovation strategy, supporting the mediating role of innovation strategy in this relationship Han et al., 2022), (Asyhari et al., 2018; .

Innovation strategy demonstrated a strong positive effect on firm performance ($\beta=0.423$, $p<0.001$), representing the strongest direct effect in the model. This finding aligns with research demonstrating that innovation strategy plays a crucial role in translating entrepreneurial leadership into performance outcomes (Hoang et al., 2023). Market orientation showed significant positive effects on both innovation strategy ($\beta=0.289$, $p<0.001$) and firm performance ($\beta=0.234$, $p<0.001$), consistent with studies indicating that market orientation directly affects corporate performance while also influencing innovation activities (Han et al., 2022), (Alam et al., 2021).

Cost management practices demonstrated a significant positive effect on firm performance ($\beta=0.356$, $p<0.001$), highlighting the importance of cost efficiency for entrepreneurial firms in emerging markets (Oyadomari et al., 2023). The interaction effect between innovation strategy and cost management on firm performance was also significant ($\beta=0.198$, $p<0.01$), indicating that cost management moderates the innovation strategy-performance relationship (Oyadomari et al., 2023).

Mediation Analysis

Mediation analysis was conducted to examine the indirect effects of entrepreneurial orientation and market orientation on firm performance through innovation strategy. Table 4 presents the mediation analysis results.

Table 4: Mediation Analysis Results

Path	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation Type
EO → IS → FP	0.187**	0.132*	0.319*	41.4%	Partial
MO → IS → FP	0.234*	0.122*	0.356*	34.3%	Partial

*Note: VAF = Variance Accounted For; ** $p<0.001$, * $p<0.01$*

The results indicate that innovation strategy partially mediates the relationships between entrepreneurial orientation and firm performance (VAF=41.4%) and between market orientation and firm performance (VAF=34.3%). These findings are consistent with research demonstrating that business model innovation plays a mediating role between entrepreneurial orientation and corporate performance (Han et al., 2022), and that innovation strategy mediates the relationship between entrepreneurial leadership and innovation performance (Hoang et al., 2023).

Model Fit and Explanatory Power

The structural model demonstrated satisfactory explanatory power, with the coefficient of determination (R^2) values indicating the proportion of variance explained in endogenous constructs. Table 5 presents the R^2 values and model fit indices.

Table 5: Model Explanatory Power and Fit Indices

Endogenous Construct	R^2	R^2 Adjusted	Q^2
Innovation Strategy	0.524	0.518	0.342
Firm Performance	0.612	0.603	0.428

The R^2 value for firm performance (0.612) indicates that the model explains 61.2% of the variance in firm performance, representing substantial explanatory power according to established guidelines (Han et al., 2022), (Asyhari et al., 2018; . The R^2 value for innovation strategy (0.524) indicates moderate to substantial explanatory power. The Stone-Geisser Q^2 values for both endogenous constructs exceed zero, confirming the predictive relevance of the model (Kalali, 2022; , (Asyhari et al., 2018; .

Moderation Analysis

The moderating effect of cost management on the innovation strategy-firm performance relationship was further examined through multi-group analysis. Firms were categorized into high and low cost management groups based on median split. Table 6 presents the moderation analysis results.

Table 6: Moderation Analysis - Cost Management Groups

Path	High CM Group (β)	Low CM Group (β)	Difference	p-value
IS \rightarrow FP	0.512*	0.334*	0.178	0.008
EO \rightarrow FP	0.243*	0.131*	0.112	0.034
MO \rightarrow FP	0.298*	0.171**	0.127	0.021

Note: ** $p < 0.001$, * $p < 0.01$, $p < 0.05$ *

The results reveal significant differences between high and low cost management groups across all paths to firm performance. Firms with high cost management practices demonstrated stronger relationships between innovation strategy and firm performance ($\beta=0.512$ vs. $\beta=0.334$, $p=0.008$), suggesting that effective cost management enhances the performance benefits of innovation strategy (Oyadomari et al., 2023). Similar patterns were observed for the effects of entrepreneurial orientation and market orientation on firm performance, indicating that cost management practices amplify the performance effects of strategic orientations (Asyhari et al., 2018; Oyadomari et al., 2023).

Descriptive Statistics and Correlation Analysis

Table 7 presents the descriptive statistics and correlation matrix for all study variables.

Table 7: Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5
1. Innovation Strategy	3.78	0.82	1.00				
2. Cost Management	3.65	0.76	0.54**	1.00			
3. Entrepreneurial Orientation	3.89	0.84	0.69**	0.50**	1.00		
4. Market Orientation	3.72	0.79	0.62**	0.57**	0.71**	1.00	
5. Firm Performance	3.81	0.88	0.70**	0.62**	0.65**	0.69**	1.00

Note: * $p < 0.01$ *

The descriptive statistics indicate that Indonesian entrepreneurial firms in the sample demonstrate moderate to high levels of innovation strategy ($M=3.78$), cost management practices ($M=3.65$), entrepreneurial orientation ($M=3.89$), market orientation ($M=3.72$), and firm performance ($M=3.81$). All correlations between study variables were positive and significant, consistent with theoretical expectations and previous research findings (Han et al., 2022), Kalali, 2022; (Asyhari et al., 2018; .

4. Discussion

The findings of this study provide important insights into the relationships between innovation strategy, cost management, and firm performance in Indonesian entrepreneurial firms, contributing to the growing body of literature on entrepreneurship in emerging markets (Han et al., 2022), Kalali, 2022; (Asyhari et al., 2018; (Susiati et al., 2024). The results demonstrate that innovation strategy plays a crucial mediating role in translating entrepreneurial orientation into firm performance outcomes, consistent with research indicating that business model innovation mediates the relationship between entrepreneurial orientation and corporate performance (Han et al., 2022). This finding suggests that Indonesian entrepreneurial firms cannot rely solely on entrepreneurial orientation to achieve superior performance; rather, they must develop and implement effective innovation strategies that translate their entrepreneurial postures into tangible competitive advantages (Han et al., 2022), (Asyhari et al., 2018; .

The significant positive effect of entrepreneurial orientation on innovation strategy ($\beta=0.312$, $p < 0.001$) aligns with theoretical expectations and empirical findings from previous research (Han et al., 2022), Kalali, 2022; (Ebose et al., 2024; . Studies have demonstrated that entrepreneurial orientation, characterized by innovativeness, proactiveness, and risk-taking, creates a strategic context conducive to innovation activities (Kalali, 2022; (Ebose et al., 2024;

. In family firms, long-term orientation has been shown to positively influence innovativeness and proactiveness, suggesting that temporal orientations interact with entrepreneurial orientation to shape innovation outcomes Kalali, 2022; . The Indonesian context, characterized by a growing entrepreneurial ecosystem and supportive institutional environment, appears to facilitate the translation of entrepreneurial orientation into innovation strategy "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; , (Susiati et al., 2024).

The strong direct effect of innovation strategy on firm performance ($\beta=0.423$, $p<0.001$) represents the most substantial relationship in the structural model, underscoring the critical importance of innovation for entrepreneurial firm success in emerging markets (Islam, 2022; , Hoang et al., 2023). Research has demonstrated that innovation types, including technological and non-technological innovations, have varying effects on firm performance, with the specific effects depending on contextual factors and firm characteristics (Islam, 2022; . In the hospitality sector, innovation strategy has been found to mediate the relationship between entrepreneurial leadership and innovation performance, highlighting the strategic importance of innovation for translating leadership capabilities into performance outcomes Hoang et al., 2023). The findings of this study extend these insights to the broader context of Indonesian entrepreneurial firms, demonstrating that innovation strategy serves as a key driver of firm performance across various sectors.

The significant effects of market orientation on both innovation strategy ($\beta=0.289$, $p<0.001$) and firm performance ($\beta=0.234$, $p<0.001$) highlight the importance of customer and competitor focus for entrepreneurial firms in emerging markets Han et al., 2022), Alam et al., 2021). Research has demonstrated that market orientation directly affects corporate performance while also influencing innovation activities through its effects on opportunity recognition and exploitation Han et al., 2022), Alam et al., 2021). In engineering firms, market orientation has been shown to be the reason for the emergence of technical opportunities, which are subsequently exploited through corporate entrepreneurship actions Alam et al., 2021). The findings of this study suggest that Indonesian entrepreneurial firms benefit from developing strong market orientations that enable them to identify customer needs and competitive dynamics, thereby informing their innovation strategies and enhancing performance outcomes.

The significant positive effect of cost management on firm performance ($\beta=0.356$, $p<0.001$) demonstrates that cost efficiency remains a critical success factor for entrepreneurial firms in emerging markets, even as they pursue innovation strategies Oyadomari et al., 2023). Research has shown that planning and cost controls, along with strategically aligned performance indicators, serve as necessary conditions for achieving high levels of organizational performance Oyadomari et al., 2023). The findings of this study suggest that Indonesian entrepreneurial firms must balance their innovation investments with effective cost management practices to achieve optimal performance outcomes. This balance is particularly important in emerging market contexts, where resource constraints and competitive pressures may be more pronounced than in developed economies (He et al., 2024; , (Asyhari et al., 2018;

The significant moderating effect of cost management on the innovation strategy-firm performance relationship ($\beta=0.198$, $p<0.01$) represents a novel contribution to the literature, demonstrating that cost management practices enhance the performance benefits of innovation strategy Oyadomari et al., 2023). The multi-group analysis revealed that firms with high cost management practices demonstrated stronger relationships between innovation strategy and firm performance compared to firms with low cost management practices ($\beta=0.512$ vs. $\beta=0.334$, $p=0.008$). This finding suggests that effective cost management creates a supportive context for innovation by ensuring efficient resource allocation and enabling firms to sustain innovation investments over time Oyadomari et al., 2023). For Indonesian entrepreneurial

firms, this implies that developing integrated approaches that align innovation strategies with systematic cost management frameworks is essential for achieving superior performance outcomes.

The partial mediation of innovation strategy in the relationships between entrepreneurial orientation and firm performance (VAF=41.4%) and between market orientation and firm performance (VAF=34.3%) indicates that both direct and indirect pathways contribute to performance outcomes (Han et al., 2022), (Hoang et al., 2023). Research has demonstrated that business model innovation plays a fully mediating role between entrepreneurial orientation and corporate performance in some contexts, while partial mediation has been observed in others (Han et al., 2022). The partial mediation observed in this study suggests that Indonesian entrepreneurial firms benefit from both the direct effects of their strategic orientations on performance and the indirect effects through innovation strategy. This finding has important implications for practice, suggesting that firms should develop both strong strategic orientations and effective innovation strategies to maximize performance outcomes.

The substantial explanatory power of the model ($R^2=0.612$ for firm performance) indicates that the proposed framework captures a significant proportion of the variance in entrepreneurial firm performance in the Indonesian context (Han et al., 2022), (Asyhari et al., 2018; . This level of explanatory power is consistent with or exceeds that reported in similar studies examining entrepreneurial orientation, innovation, and firm performance (Han et al., 2022), (Kalali, 2022; , (Asyhari et al., 2018; . The predictive relevance of the model, as indicated by positive Q^2 values, further supports the validity of the proposed relationships and their applicability to the Indonesian entrepreneurial context (Kalali, 2022; , (Asyhari et al., 2018; .

The findings of this study have important implications for understanding how entrepreneurial firms in emerging markets can effectively manage the tension between innovation and cost efficiency (He et al., 2024; , (Oyadomari et al., 2023). Research has demonstrated that firms face trade-offs between different strategic priorities, such as corporate social responsibility and business innovation, with market environmental uncertainty moderating these relationships (He et al., 2024; . The findings of this study suggest that cost management practices can help entrepreneurial firms navigate these trade-offs by ensuring that innovation investments are made efficiently and that resources are allocated to the most promising innovation opportunities. This integrated approach to innovation strategy and cost management may be particularly important in emerging market contexts, where resource constraints and environmental uncertainties are often more pronounced (He et al., 2024; , (Asyhari et al., 2018; .

The Indonesian context presents unique characteristics that influence the relationships observed in this study (Anggraini & Patricia, 2019; , "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; , (Susiaty et al., 2024). Research has demonstrated that the Indonesian entrepreneurial ecosystem plays a mediating role in the relationship between entrepreneurship education and entrepreneurial readiness, highlighting the importance of supportive environmental factors for entrepreneurial success "The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem", 2022; . Studies on Indonesian MSMEs have shown that CEO social capital, marketing capability, and financial capability significantly influence business performance and sustainable business practices (Susiaty et al., 2024). The findings of this study complement these insights by demonstrating that innovation strategy and cost management practices are additional critical factors influencing entrepreneurial firm performance in Indonesia.

The implications of this study extend to considerations of sustainability and green innovation, which have become increasingly important for entrepreneurial firms in emerging markets (Shivani et al., 2025; , (Frare & Beuren, 2021). Research has demonstrated that green

entrepreneurial orientation and green process innovation influence environmental performance, with green process innovation mediating the relationships between green entrepreneurial orientation and proactive sustainability strategy with environmental performance (Frare & Beuren, 2021). Similarly, green supply chain management practices have been found to significantly influence environmental performance in manufacturing firms within emerging economies (Afum et al., 2020; Odamtten et al., 2025). The findings of this study suggest that Indonesian entrepreneurial firms should consider integrating sustainability considerations into their innovation strategies while maintaining cost efficiency, thereby achieving both economic and environmental performance objectives.

The role of digitalization in shaping innovation and cost management practices represents another important consideration for entrepreneurial firms in emerging markets (Díaz-Chao et al., 2016), (Ramírez et al., 2022). Research has demonstrated that digitalization affects knowledge management capabilities, which in turn influence innovation outcomes and firm performance (Ramírez et al., 2022). Information and communication technologies have been shown to enhance firm labor productivity through their effects on innovation capabilities and network utilization (Díaz-Chao et al., 2016). For Indonesian entrepreneurial firms, leveraging digital technologies may represent both an opportunity for innovation and a mechanism for cost optimization, enabling them to achieve the integrated approach to innovation strategy and cost management suggested by the findings of this study.

The findings also have implications for understanding the role of human capital and organizational learning in entrepreneurial firm performance (Frijat & Elamer, 2024; (AlSaied & Alkhoraif, 2024). Research has demonstrated that human capital effectiveness influences corporate performance, with corporate sustainability mediating this relationship (Frijat & Elamer, 2024; . Organizational learning and innovative organizational culture have been shown to contribute to ambidextrous innovation, enabling firms to pursue both explorative and exploitative innovation activities (AlSaied & Alkhoraif, 2024). The findings of this study suggest that Indonesian entrepreneurial firms should invest in developing human capital and organizational learning capabilities that support both innovation strategy development and cost management practices.

Several limitations of this study should be acknowledged. First, the cross-sectional research design limits the ability to establish causal relationships between variables, although the theoretical foundations and previous research support the proposed directional relationships (Han et al., 2022), (Kalali, 2022; , (Asyhari et al., 2018; . Future research could employ longitudinal designs to examine how the relationships between innovation strategy, cost management, and firm performance evolve over time (Ebose et al., 2024; , (Arshi et al., 2021). Second, the reliance on self-reported data from firm managers may introduce common method bias, although procedural and statistical remedies were employed to minimize this concern (Asyhari et al., 2018; , (Hoang et al., 2023). Third, the focus on Indonesian entrepreneurial firms may limit the generalizability of findings to other emerging market contexts, although the theoretical foundations suggest that similar relationships may exist in comparable settings (Han et al., 2022), (Kalali, 2022; , (Asyhari et al., 2018; .

5. Conclusion

This study provides comprehensive empirical evidence on the relationships between innovation strategy, cost management, and firm performance in Indonesian entrepreneurial firms. The findings demonstrate that innovation strategy serves as a critical mediating mechanism through which entrepreneurial orientation and market orientation influence firm performance outcomes. Cost management practices not only directly enhance firm performance but also moderate the innovation strategy-performance relationship, amplifying the performance benefits of innovation for firms with effective cost management systems.

The research contributes to the entrepreneurship literature by demonstrating the importance of integrating innovation strategy with cost management practices in emerging market contexts. Indonesian entrepreneurial firms that develop strong entrepreneurial and market orientations, implement effective innovation strategies, and maintain systematic cost management practices achieve superior performance outcomes compared to firms that focus on any single dimension in isolation.

The practical implications of this study suggest that entrepreneurs and managers in Indonesian firms should adopt holistic approaches to strategic management that balance innovation investments with cost efficiency imperatives. Developing capabilities in both innovation strategy formulation and cost management implementation enables firms to navigate the competitive challenges of emerging markets while building sustainable competitive advantages.

Future research should explore the temporal dynamics of these relationships, examine potential boundary conditions across different industry sectors, and investigate how digital transformation influences the innovation strategy-cost management nexus. Additionally, comparative studies across multiple emerging markets would enhance understanding of contextual factors that shape these relationships and inform the development of more nuanced theoretical frameworks for entrepreneurial firm performance in diverse economic environments.

References:

- Afum, E., Osei-Ahenkan, V., Agyabeng-Mensah, Y., Owusu, J., Kusi, L., & Ankomah, J. (2020). Green manufacturing practices and sustainable performance among Ghanaian manufacturing SMEs: the explanatory link of green supply chain integration. *Management of Environmental Quality an International Journal*, 31(6), 1457-1475. <https://doi.org/10.1108/meq-01-2020-0019>
- Alam, M., Kousar, S., Ullah, M., & Pervaiz, A. (2021). How Creative Destruction Functions in Corporate Entrepreneurial Process: An Empirical Investigation of Schumpeterian Concept in Engineering Firms Setting in Pakistan.. <https://doi.org/10.21203/rs.3.rs-311356/v1>
- AlSaied, M. and Alkhoraif, A. (2024). The role of organizational learning and innovative organizational culture for ambidextrous innovation. *The Learning Organization*, 31(2), 205-226. <https://doi.org/10.1108/tlo-06-2023-0101>
- Anggraini, R. and Patricia, P. (2019). Pengaruh Attitude Toward Behavior, Perceived Behavioral Control, dan Subjective Norm terhadap Entrepreneurial Intention Mahasiswa Non-Ekonomi. *Ekonomi Dan Bisnis*, 5(2), 96-105. <https://doi.org/10.35590/jeb.v5i2.745>
- Arshi, T., Kamal, Q., Burns, P., Tewari, V., & Rao, T. (2021). Examining Perceived Entrepreneurial Stress: A Causal Interpretation through Cross-Lagged Panel Study. *Journal of Open Innovation Technology Market and Complexity*, 7(1), 1. <https://doi.org/10.3390/joitmc7010001>
- Asyhari, A., Pudjihastuti, S., & Kurdaningsih, D. (2018). Peran mediasi keunggulan kompetitif pada faktor determinan kinerja bisnis UKM di sentra tenun batik di Jawa Tengah. *Jurnal Siasat Bisnis*, 22(2), 111-131. <https://doi.org/10.20885/jsb.vol22.iss2.art1>
- Díaz-Chao, Á., Izard, O., & Torrent-Sellens, J. (2016). Information and Communication Technologies, Innovation, and Firm Productivity in Small and Medium-Sized Travel Agencies. *Journal of Travel Research*, 55(7), 862-873. <https://doi.org/10.1177/0047287515583357>
- Ebose, A., Egwakhe, A., Nwankwere, I., Akande, F., & Umukoro, E. (2024). Entrepreneurial Exposure Effect. *Kuey*. <https://doi.org/10.53555/kuey.v30i5.1982>

- Frare, A. and Beuren, I. (2021). The role of green process innovation translating green entrepreneurial orientation and proactive sustainability strategy into environmental performance. *Journal of Small Business and Enterprise Development*, 29(5), 789-806. <https://doi.org/10.1108/jsbed-10-2021-0402>
- Frijat, Y. and Elamer, A. (2024). Human capital efficiency, corporate sustainability, and performance: Evidence from emerging economies. *Corporate Social Responsibility and Environmental Management*, 32(2), 1457-1472. <https://doi.org/10.1002/csr.3013>
- Han, W., Zhou, Y., & Lu, R. (2022). Strategic orientation, business model innovation and corporate performance—Evidence from construction industry. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.971654>
- He, X., Costa, R., Ni, D., & Han, W. (2024). How Quasi-Internal Resources Enhance Firm Performance During Large-Scale Emergencies: The Role of Trade-Off Between CSR and Business Innovations. *Sustainability*, 16(21), 9485. <https://doi.org/10.3390/su16219485>
- Hoang, G., Nguyen, H., Tuấn, L., & Nguyen, T. (2023). Linking entrepreneurial leadership and innovation performance in hospitality firms: the roles of innovation strategy and knowledge acquisition. *Journal of Service Theory and Practice*, 33(4), 511-536. <https://doi.org/10.1108/jstp-09-2022-0203>
- Islam, M. (2022). Innovations and service firms' performance: a firm-level mediating and moderating effects analysis for India. *International Journal of Innovation Science*, 15(3), 385-405. <https://doi.org/10.1108/ijis-11-2021-0204>
- Kalali, N. (2022). Entrepreneurial orientation in family firms: the effects of long-term orientation. *International Journal of Entrepreneurial Behaviour & Research*, 28(7), 1732-1750. <https://doi.org/10.1108/ijebr-06-2020-0406>
- Odamtten, M., Hanson, O., Agboyi, M., & Antwi, B. (2025). Green supply chain management and environmental performance: Does environmental commitment matter?. *Business and Society Review*, 130(4), 525-547. <https://doi.org/10.1111/basr.70022>
- Oyadomari, J., Bido, D., Neto, O., Aguiar, A., & Dutra-de-Lima, R. (2023). Relationships among strategically aligned performance indicators, controls, and performance. *Revista Contabilidade & Finanças*, 34(91). <https://doi.org/10.1590/1808-057x20221618.en>
- Ramírez, S., Gómez, F., González-Ramos, M., & Grieva, O. (2022). The Effect of Digitalization on Innovation Capabilities through the Lenses of the Knowledge Management Strategy. *Administrative Sciences*, 12(4), 144. <https://doi.org/10.3390/admsci12040144>
- Sari, E. (2023). Using Tiktok as a Live Marketing Strategy to Attract Female Consumers' Interest in Purchasing Cosmetic Products in Indonesia. *International Journal on Recent and Innovation Trends in Computing and Communication*, 11(9), 4162-4171. <https://doi.org/10.17762/ijritcc.v11i9.9784>
- Shivani, S., Sharma, S., & Singh, S. (2025). Linking Green Entrepreneurial Orientation to Sustainable Firm Performance: Insights From a Mixed Method Study. *Business Strategy and the Environment*, 34(8), 10313-10348. <https://doi.org/10.1002/bse.70111>
- Sulistiyowati, R., Djatmika, E. T., Hermawan, A., & Rahayu, W. P. (2022). The Linkage of Entrepreneurship Education and Students' Entrepreneurial Readiness: The Mediating Role of Entrepreneurship Ecosystem. *Journal of Higher Education Theory and Practice*, 22(14). <https://doi.org/10.33423/jhetp.v22i14.5532>
- Susiati, D., Nurlia, N., Utami, E., & Destiana, R. (2024). Establishing an Entrepreneurial Environment in Indonesia: Impact of CEO Social Capital, Marketing, and Financial Capabilities on the Performance and Sustainability of MSMEs. *International Journal of Business Law and Education*, 5(1), 195-214. <https://doi.org/10.56442/ijble.v5i1.374>