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Integrating Enterprise Risk Management And Business Strategy To Enhance Firm Performance: The Mediating Role Of Competitive Advantage In Indonesia's Manufacturing Sector

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Abstract

This study investigates the impact of Enterprise Risk Management (ERM) and business strategy—specifically cost leadership—on firm performance, with a particular focus on the mediating role of competitive advantage. The research sample comprises 60 manufacturing firms listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. ERM disclosures were measured using content analysis of annual reports, while financial and strategic data were collected from firm financial statements published on the IDX website and the Refinitiv Eikon. A panel regression method was employed to analyze the data using STATA software, testing both direct and indirect relationships among the variables. The empirical results indicate that ERM does not have a significant effect on firm performance, whether measured by Return on Assets (ROA) or Tobin's Q, either directly or through competitive advantage. In contrast, the cost leadership strategy shows a significant positive influence on financial performance. Furthermore, competitive advantage is found to partially mediate the relationship between cost leadership and firm performance.

INTRODUCTION

The manufacturing sector plays a vital role in the global economy, contributing approximately 16% of global GDP in 2018 (Kelp et al., 2020). Beyond its role in production and employment, the sector is a key driver of technological innovation and national competitiveness (Lautier, 2024). Countries with strong manufacturing bases typically enjoy greater economic resilience and sustainable growth. However, in Indonesia, the manufacturing sector has experienced a steady decline in its contribution to national GDP over the past two decades. According to the Central Bureau of Statistics (Badan Pusat Statistik/BPS) (BPS, 2024), the

contribution of the processing industry fell from 22.04% in 2010 to 18.67% in 2023. Similarly, World Bank data indicate a drop from 32.04% in 2002 to 18.3% in 2022, signaling symptoms of premature deindustrialization (World Bank, 2024).

This decline is not only a macroeconomic concern but also reflects stagnation at the firm level, especially in navigating emerging risks such as global competition, operational inefficiencies, technological disruption, and geopolitical uncertainty (Bokhan & Romanenko, 2021 in Fadjarenie et al, 2024). In such volatile environments, firms must strengthen their risk management systems to ensure business continuity and strategic agility. Enterprise Risk Management (ERM) has emerged as a globally recognized framework for managing complex, interrelated risks. Frameworks such as COSO ERM (2017) and ISO 31000 (2018) advocate integrating risk considerations into strategic planning and performance management.

Although the benefits of ERM have been well documented such as improving decision-making, stabilizing earnings, and enhancing firm value (Eckles et al., 2014; Soltanizadeh et al., 2016). Empirical studies remain largely concentrated in the financial sector (Biresaw & Sibindi, 2025; Adam & Mahtab, 2023; Tewu et al., 2024). These sectors are often subject to regulatory mandates, which partially explain the dominance of ERM research in finance. However, ERM theory remains relevant in the manufacturing context, which faces multidimensional operational risks and pressures for efficiency. The need to understand ERM's practical value in capital-intensive, cost-sensitive sectors like manufacturing is both timely and underexplored.

In parallel, business strategy also plays a central role in determining firm performance. Porter (1985) proposed three generic strategies: cost leadership, differentiation, and focus as sources of sustainable competitive advantage. Among these, cost leadership is particularly suited to the manufacturing sector, where operational efficiency and cost control are paramount. Prior studies affirm the positive impact of cost leadership on profitability and firm value (Abdelqader et al., 2024; Fadjarenie et al., 2024). However, business strategy alone is often insufficient to drive superior performance in today's dynamic environment. Firms must possess and leverage competitive advantage as a capability that mediates the translation of strategy and risk management into results (Elahi, 2013; Yang et al., 2018).

While prior research has explored the individual impact of ERM or strategy on performance, few studies have investigated how these two constructs interact and how competitive advantage mediates their joint effect, particularly in the manufacturing sector of emerging economies. Moreover, many prior studies have employed structural equation modeling or path analysis techniques (Saeidi et al., 2021; Ricardianto et al., 2023). This study employs a panel regression approach on 60 manufacturing firms listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023.

This study aims to examine the impact of ERM and business strategy specifically cost leadership on firm performance, while assessing the mediating role of competitive advantage. The findings are expected to enrich the strategic management literature, offer empirical insights for manufacturing firms in emerging markets, and support policymakers in designing more effective governance frameworks for enterprise risk and strategy alignment.

LITERATURE REVIEW

Resource-Based View (Rbv)

The Resource-Based View (RBV) posits that firms can achieve sustainable competitive advantage by possessing valuable, rare, inimitable, and non-substitutable resources (Barney, 1991; Wernerfelt, 1995). These resources, when effectively deployed, can significantly improve long-term firm performance (Barney & Hesterly, 2005). ERM aligns with this view by enabling firms to protect and strategically manage key resources, while business strategy, serves as a means to develop and exploit resource advantages. Thus, RBV supports the integration of ERM and business strategy to reinforce competitive positioning.

Dynamic Capabilities View (Dcv)

Expanding RBV, the Dynamic Capabilities View (DCV) emphasizes a firm's ability to adapt, reconfigure, and renew its resources in response to environmental changes (Teece et al., 1997). ERM contributes to dynamic capabilities by enhancing a firm's sensing and seizing functions in risk-laden environments, while strategic initiatives such as cost leadership reflect the firm's capacity to respond to competitive pressures. Together, these mechanisms support superior performance by enabling agility and resilience (Rehman et al., 2022).

Enterprise Risk Management (Erm)

ERM refers to a structured process for identifying, assessing, monitoring, and responding to risks that may affect a firm's strategic objectives (Basel Committee on Banking Supervision, 2011). ERM enhances firm confidence in pursuing new investments by reducing costs, mitigating financial and managerial risks, addressing tax burdens, and alleviating investment constraints (Seviona & Haryati, 2024). COSO's ERM framework (2017) emphasizes the integration of risk with strategy, performance, and governance. Similarly, ISO 31000:2018 provides a risk management guideline grounded in principles, frameworks, and processes that reflect organizational context and risk culture. Through effective ERM, firms can improve decision-making and align risk responses with strategic goals.

Business Strategy

According to Parthasarthy (2007) in Peljhan et al. (2018), strategy is a set of actions and decisions made by managers to achieve superior firm performance compared to competitors. Porter (1985) identifies cost leadership as one of the primary competitive strategies, aiming to deliver products at lower cost through operational efficiency. Cost leadership strategy focuses on cost efficiency across all business operations, allowing firms to offer products and services at lower prices than competitors. Firms adopting cost leadership typically operate efficiently, leverage economies of scale, and provide standardized, simplified products (Hambrick, 1983; Porter, 1997 in Jermias & Mahmoudian, 2024). A balanced approach between efficiency and value creation can be a key success factor in navigating competitive and dynamic markets. Cost leadership is especially relevant in manufacturing, where price sensitivity and efficiency are critical success factors.

Competitive Advantage

Porter (1985) defines competitive advantage as a firm's ability to achieve superior performance relative to competitors within the same industry or market by delivering greater value to consumers, either through lower prices or by offering additional benefits and services that justify higher pricing. Safira and Sukresna (2024) emphasize that competitive advantage stems from offering unique, hard-to-replicate products or services that enhance profitability and market leadership. To gain a competitive edge, firms must formulate strategies that align with internal and external conditions and implement these strategies effectively in daily operations. In this study, competitive advantage is positioned as a mediating construct that links ERM and business strategy to firm performance (Elahi, 2013; Yang et al., 2018). Firms that convert risk awareness and strategic efficiency into customer value are more likely to achieve sustainable performance gains (Jamaludin, 2021)

Firm Performance

Firm performance is a key indicator of organizational success and is commonly assessed using both accounting-based and market-based measures. Return on Assets (ROA) reflects operational efficiency, while Tobin's Q captures investor expectations about future profitability (Abu & Ibrahim, 2022). A dual-metric approach provides a comprehensive view of how internal management practices and external market perceptions jointly influence value creation.

The Effect Of Erm On Firm Performance

ERM provides a structured approach to identifying, assessing, and mitigating risks across the organization. Recent findings suggest that ERM adds measurable value to firms, particularly when implemented with high quality and strategic alignment (Pan et al., 2023). Numerous studies confirm the positive impact of ERM on firm performance. However, empirical results remain mixed. While some find significant direct effects (Chairani and Siregar, 2021; Saeidi et al., 2021; Malik et al., 2020), others report weak or insignificant relationships (Al-Nimer et al., 2021; Sofia & Khomsiyah, 2019). Based on this extensive literature, the following hypothesis is proposed:H_{1a}: ERM has a direct positive effect on firm performance (ROA). H_{1b}: ERM has a direct positive effect on firm performance (Tobin's Q).

The Effect Of Business Strategy On Firm Performance

Business strategy plays a central role in enhancing firm performance by guiding resource allocation and long-term objectives (Rehman & Anwar, 2019). Cost leadership strategy, in particular, enables firms to achieve operational efficiency and price competitiveness. This strategy is particularly relevant in manufacturing sectors, where cost sensitivity is high and price competition is intense. Empirical studies have generally found a significant positive relationship between business strategy and firm performance (Ricardianto et al., 2023; Rehman & Anwar, 2019). However, contrary to these findings, the current study reveals that the adoption of business strategy does not have a statistically significant effect on firm performance (Sofia & Khomsiyah, 2019). Based on these statements, the following hypothesis is proposed: H_{2a}: Business strategy has a positive direct effect on firm performance (ROA). H_{2b}: Business strategy has a positive direct effect on firm performance (Tobin's Q).

The Mediating Role Of Competitive Advantage In The Relationship Between Erm And Firm Performance

Competitive advantage differentiates a firm from its rivals, enhances customer value, and strengthens its position in the market. ERM as a strategic asset, rare, valuable, inimitable, and non-substitutable enables firms to develop competitive advantages and increase firm performance (Saeidi et al., 2021). ERM helps firms minimize unnecessary costs, thereby facilitating the achievement of competitive advantage and firm performance (Yang et al., 2018). Some studies find that ERM directly influences both competitive advantage and firm performance (Tewu et al., 2024), while others suggest that the effect of ERM on performance is mediated partially or fully by competitive advantage (Damayanti & Augustine, 2019; Ricardianto et al., 2023; Yang et al., 2018). These variations indicate that competitive advantage may serve as an important mechanism through which ERM delivers its benefits. Based on these insights, the following hypothesis is proposed: H_{3a}: Competitive advantage mediates the relationship between ERM and firm performance (ROA). H_{3b}: Competitive advantage mediates the relationship between ERM and firm performance (Tobin's Q).

The Mediating Role Of Competitive Advantage In The Relationship Between Business Strategy And Firm Performance

Business strategy is an integrated long-term plan for achieving organization goals and building a competitive market position (Rehman & Anwar, 2019). This strategy is crucial in creating competitive advantage, enabling firms to dominate markets and sustain business competition (Abdulwase et al., 2020). With the right business strategy, firms can identify and exploit market opportunities, optimally allocate resources, and manage risks more effectively. Particularly in cost leadership, firms gain advantage by minimizing operational costs and enhancing value delivery (Porter, 1980; Neto et al., 2022). Prior empirical studies have confirmed the mediating role of competitive advantage in translating strategic initiatives into superior firm performance (Ricardianto et al., 2023). Based on this theoretical and empirical background, the

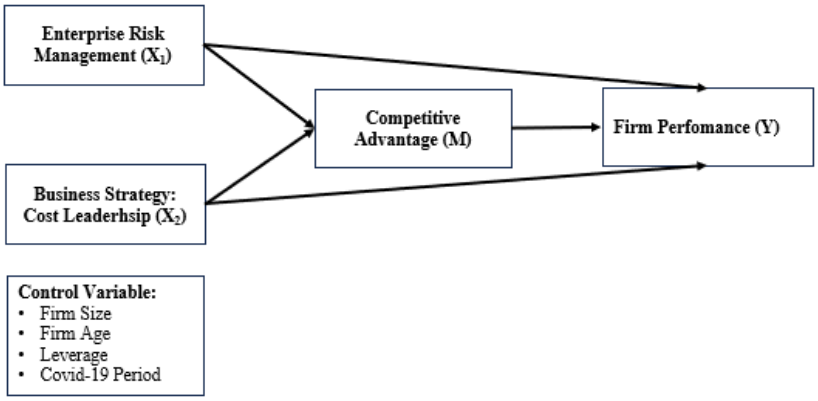
following hypotheses are proposed: H_{4a}: Competitive advantage mediates the relationship between business strategy and firm performance (ROA). H_{4b}: Competitive advantage mediates the relationship between business strategy and firm performance (Tobin's Q).

METHODS

The study focuses on manufacturing companies listed on the IDX during the 2019–2023 period. Using purposive sampling, the final sample includes 299 observations from 60 companies that consistently published complete annual reports and were not delisted during the observation period, resulting in an unbalanced panel dataset.

Data were entirely drawn from secondary sources, including annual reports accessed via the IDX website, company websites, and Refinitiv Eikon. ERM implementation was evaluated using content analysis, while financial data for business strategy, competitive advantage, and firm performance were obtained from financial statements. Panel data regression analysis was conducted using STATA software to examine both direct and indirect effects. The mediation analysis followed the Baron & Kenny (1986) framework, supported by the Sobel test to confirm the mediating role of competitive advantage in the relationship between ERM, cost leadership, and firm performance.

Figure 1. Research Conceptual Framework



A total of seven regression models were estimated as follows:

Direct Effects (Hypotheses H_1 & H_2)

To test the direct influence of the independent variables ERM and business strategy (BS) on firm performance, the following panel regression models were applied:

$ROA_{it} = b_0 + b_1ERM_{it} + b_2BS_{it} + b_3Size_{it} + b_4AGE_{it} + b_5Leverage_{it} + b_6Covid_{it} + e_{it}$

$TOBINSQ_{it} = {}_0 + b_1ERM_{it} + b_2BS_{it} + b_3Size_{it} + b_4AGE_{it} + b_5Leverage_{it} + b_6Covid_{it} + e_{it}$

Indirect Effects (Mediation) (Hypotheses H_3 & H_4)

The mediating role of competitive advantage (CA) is assessed through the following step regression procedure:

1. Effect of Independent Variables on Mediator
   $CA_{it} = b_0 + b_1ERM_{it} + b_2BS_{it} + b_3Size_{it} + b_4AGE_{it} + b_5Leverage_{it} + b_6Covid_{it} + e_{it}$
2. Effect of Mediator on Dependent Variables
   $ROA_{it} = b_0 + b_1CA_{it} + b_2Size_{it} + b_3AGE_{it} + b_4Leverage_{it} + b_5Covid_{it} + e_{it}$
   $TOBINSQ_{it} = b_0 + b_1CA_{it} + b_2Size_{it} + b_3AGE_{it} + b_4Leverage_{it} + b_5Covid_{it} + e_{it}$
3. Effect of Independent Variables and Mediator on Dependent Variables
   $ROA_{it} = b_0 + b_1ERM_{it} + b_2BS_{it} + b_3CA_{it} + b_4Size_{it} + b_5AGE_{it} + b_6Leverage_{it} + b_7Covid_{it} + e_{it}$
   $TOBINSQ_{it} = b_0 + b_1ERM_{it} + b_2BS_{it} + b_3CA_{it} + b_4Size_{it} + b_5AGE_{it} + b_6Leverage_{it} + b_7Covid_{it} + e_{it}$

RESULTS

The testing of hypotheses H_{1a}, H_{1b}, H_{2a}, and H_{2b} was carried out using two separate regression models. Model 1 was specified with ROA as the dependent variable, while Model 2 used Tobin's Q. These models were designed to examine the direct effects of ERM and cost leadership strategy (BS) on firm performance. The statistical testing relied on the coefficient estimates and their respective p-values to determine the significance of each independent variable. Accordingly, hypotheses H_{1a} and H_{2a} were evaluated using Model 1, and hypotheses H1b and H_{2b} were assessed through Model 2.

Table 1 Model 1 and 2: Panel Regression Test Result

$ROA= \beta_0 + \beta_1 ERM_{it} + \beta_2 BS_{it} + \beta_3 Size_{it} + \beta_4 AGE_{it} + \beta_5 Leverage_{it} + \beta_6 Covid_{it} + \varepsilon_{it}$										
$TOBINSQ_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 BS_{it} + \beta_3 Size_{it} + \beta_4 AGE_{it} + \beta_5 Leverage_{it} + \beta_6 Covid_{it} + \varepsilon_{it}$										
Variable	**ROA**					**TOBINSQ**				
	Coef.	**Std. error**	**z-stat**	**Prob**	**Sig.**	**Coef.**	**Std. error**	**z-stat**	**Prob**	**Sig.**
(Cons.)	-0.2597	0.2216	-1.1700	0.2410		1.2523	2.1651	0.5800	0.5630	
ERM	-0.0380	0.0439	-0.8700	0.3860		-0.2063	0.4736	-0.4400	0.6630	
BS	0.0159	0.0066	2.4000	0.0170	**	0.0205	0.0922	0.2200	0.8240	
Leverage	-0.2282	0.0688	-3.3200	0.0010	***	-1.1619	0.5855	-1.9800	0.0470	**
AGE	0.0018	0.0009	1.9900	0.0470	**	-0.0130	0.0196	-0.6700	0.5040	
Size	0.0139	0.0078	1.7800	0.0750	*	0.0391	0.0788	0.5000	0.6200	
Covid	-0.0073	0.0074	-0.9900	0.3220		0.0713	0.0528	1.3500	0.1770	
	Prob z-stat			0.0000		Prob z-stat			0.1090	
	R-squared			0.2974		R-squared			0.0441	
Remarks: * significant 10%, ** significant 5%, *** significant 1%										

Source: Output STATA, 2025

Based on the regression results for Model 1, the implementation of ERM is found to have a negative but statistically insignificant effect on ROA, with a p-value of 0.3860 ($p > 0.05$). Thus, hypothesis 1a, which states that ERM has a direct positive effect on ROA, is rejected. In contrast,

BS demonstrates a positive and statistically significant impact on ROA, with a p-value of 0.0170 (p < 0.05). These findings suggest that while ERM implementation does not significantly enhance profitability, firms that pursue cost efficiency tend to perform better in terms of accounting-based performance. Therefore, hypothesis 2a, which states that business strategy has a positive effect on ROA, is accepted.

In Model 2, the results indicate that ERM also has a negative and insignificant relationship with market-based firm performance, as reflected by a p-value of 0.6630. This insignificance indicates that there is not enough evidence to support hypothesis 1b, so the hypothesis is rejected. Similarly, BS does not exhibit a statistically significant effect on Tobin's Q, with a p-value of 0.8240. These results imply that neither ERM nor BS significantly influence investor perceptions or market valuation during the observed period. With these results, hypothesis 2b is rejected.

To examine whether the independent variables significantly influence the dependent variables through a mediating variable, this study employed a mediation analysis. The mediation analysis was conducted through Models 3 to 7, which were designed to capture the indirect effects of the independent variables. Accordingly, Hypotheses 3a and 4a tested the mediating effects on ROA, while Hypotheses 3b and 4b evaluated the mediating effects on Tobin's Q.

The regression results from Model 3, which examined the effect of ERM and BS on competitive advantage (CA) reveal that ERM does not have a statistically significant effect on CA, with a p-value of 0.5350. In contrast, BS exhibits a positive and statistically significant relationship with CA, with a p-value of 0.0280 (p < 0.05). This finding indicates that firms consistently applying cost leadership strategies are more likely to achieve sustainable competitive advantage. While ERM does not directly influence CA, the significant role of cost efficiency strategy in enhancing CA highlights its strategic relevance. Therefore, this model suggests the presence of a partial mediation process, in which only one independent variable, business strategy demonstrates a significant pathway through the mediator.

Table 2 Model 3: Panel Regression Test Result

$CA_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 BS_{it} + \beta_3 Size_{it} + \beta_4 AGE_t + \beta_5 Leverage_{it} + \beta 6 Covid_{it} + \varepsilon_{it}$

Variable	ROA				
	Coef.	Std. error	z-stat	Prob	Sig.
(Cons.)	-0.1199	0.1341	-0.8900	0.3710	
ERM	-0.0254	0.0408	-0.6200	0.5350	
BS	0.0072	0.0033	2.1900	0.0280	**
Size	0.0082	0.0048	1.7100	0.0880	*
AGE	0.0012	0.0008	1.5400	0.1250	
Leverage	-0.2337	0.0510	-4.5800	0.0000	***
Covid	-0.0169	0.0086	-1.9500	0.0510	*
	Prob z-stat			0.0000	
	R-squared			0.2888	

Remarks: * significant 10%, ** significant 5%, *** significant 1%

Source: Output STATA, 2025

Table 3 Model 4 and 5: Panel Regression Test Result

$ROA_{it} = \beta_0 + \beta_1 CA_{it} + \beta_2 Size_{it} + \beta_3 AGE_{it} + \beta_4 Leverage_{it} + \beta_5 Covid_{it} + \varepsilon_{it}$										
$TOBINSQ_{it} = \beta_0 + \beta_1 CA_{it} + \beta_2 Size_{it} + \beta_3 AGE_{it} + \beta_4 Leverage_{it} + \beta_5 Covid_{it} + \varepsilon_{it}$										
Variable	**ROA**					**TOBINSQ**				
	Coef.	**Std. error**	**z-stat**	**Prob**	**Sig.**	**Coef.**	**Std. error**	**z-stat**	**Prob**	**Sig.**
(Cons.)	-0.2048	0.0896	-2.2900	0.0220	**	1.5070	1.8969	0.7900	0.4270	
CA	0.7198	0.0717	10.0300	0.0000	***	2.3572	0.7856	3.0000	0.0030	***
Size	0.0079	0.0029	2.7300	0.0060	***	0.0123	0.0679	0.1800	0.8560	
AGE	0.0008	0.0004	1.9800	0.0470	**	-0.0040	0.0165	-0.2400	0.8070	
Leverage	-0.0711	0.0292	-2.4400	0.0150	**	-0.8169	0.4932	-1.6600	0.0980	*
Covid	0.0045	0.0051	0.8700	0.3820		0.1231	0.0582	2.1100	0.0340	**
	Prob z-stat			0.0000		Prob z-stat			0.0072	
	R-squared			0.6917		R-squared			0.2914	
Remarks: * significant 10%, ** significant 5%, *** significant 1%										

Source: Output STATA, 2025

The regression results of Model 4 show that competitive advantage (CA) has a positive and statistically significant effect on ROA, with a p-value of 0.000, indicating that firms with stronger competitive positioning tend to achieve higher profitability. Similarly, Model 5 reveals that CA also has a significant positive effect on Tobin's Q (p = 0.0030), suggesting that firms with superior competitive advantages are more likely to be valued higher by the market.

Table 4 Model 6 and 7: Panel Regression Test Result

$ROA_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 BS_{it} + \beta_3 CA_{it} + \beta_4 Size_{it} + \beta_5 AGE_{it} + \beta_6 Leverage_{it} + \beta_7 Covid_{it} + \varepsilon_{it}$										
$TOBINSQ_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 BS_{it} + \beta_3 CA_{it} + \beta_4 Size_{it} + \beta_5 AGE_{it} + \beta_6 Leverage_{it} + \beta_7 Covid_{it} + \varepsilon_{it}$										
Variable	**ROA**					**TOBINSQ**				
	Coef.	**Std. error**	**z-stat**	**Prob**	**Sig.**	**Coef.**	**Std. error**	**z-stat**	**Prob**	**Sig.**
(Cons.)	-0.2130	0.1047	-2.0300	0.0420	**	1.5044	1.8778	0.8000	0.4230	
ERM	-0.0277	0.0275	-1.0100	0.3140		-0.1164	0.4570	-0.2500	0.7990	
BS	0.0066	0.0034	1.9600	0.0500	**	0.0399	0.0679	0.5900	0.5570	
CA	0.6921	0.0718	9.6300	0.0000	***	2.2645	0.7279	3.1100	0.0020	***
Size	0.0091	0.0037	2.4500	0.0140	**	0.0175	0.0682	0.2600	0.7970	
AGE	0.0009	0.0004	2.2200	0.0270	**	-0.0041	0.0170	-0.,2400	0.8110	
Leverage	-0.0549	0.0326	-1.6800	0.0920	*	-0.7237	0.5765	-1.2600	0.2090	
Covid	0.0039	0.0050	0.7800	0.4370		0.1214	0.0583	2.0800	0.0370	**
	Prob z-stat			0.0000		Prob z-stat			0.0202	
	R-squared			0.6951		R-squared			0.3025	
Remarks: * significant 10%. ** significant 5%. *** significant 1%										

Source: Output STATA, 2025

In Model 6, where CA is included alongside ERM and cost leadership strategy (BS) to predict ROA, the results indicate that CA remains positively significant (p= 0.000), while ERM continues to show no significant effect (p = 0.3140). The cost leadership strategy maintains a marginally significant effect on ROA (p = 0.0500), providing evidence of partial mediation, where CA mediates the influence of cost leadership on profitability, supporting Hypothesis 4a.

Finally, Model 7 confirms that CA has a positive and significant impact on Tobins Q (p = 0.0020). However, neither ERM nor cost leadership strategy shows a direct significant effect on Tobin's Q (both p > 0.05). These findings indicate that the effect of cost leadership on market-based performance is fully mediated by competitive advantage, suggesting a full mediation mechanism in this relationship and supporting Hypothesis 4b.

To further validate the mediating role of competitive advantage (CA), this study employed the Sobel test, which evaluates whether CA significantly transmits the effects of ERM and BS on firm performance. The results reveal that the indirect pathways ERM → CA → ROA and ERM → CA → Tobin's Q yield p-values of 0.5356 and 0.5427, respectively. These results indicate that CA does not significantly mediate the relationship between ERM and either measure of firm performance. Thus, the mediation hypotheses involving ERM are not empirically supported.

In contrast, the Sobel test for the path BS → CA → ROA produces a statistically significant p-value of 0.0323, confirming that CA plays a significant mediating role in the relationship between cost leadership and accounting-based performance (ROA). This supports Hypothesis 4a and underscores the strategic importance of competitive advantage in translating cost efficiency into financial outcomes. However, for the path BS → CA → Tobin's Q, although the direction of the relationship remains positive, the mediation effect is not statistically significant, suggesting that CA does not mediate the relationship between cost leadership and market-based performance. Overall, the findings indicate that competitive advantage only mediates the cost leadership in terms of ROA, but not Tobin's Q.

Table 5 Results Of Sobel Test Calculation

Mediation Analysis	*p-value*	Sig.	Remarks
ERM → CA → ROA	0.5356	> 0.05	Not significant
ERM → CA → Tobin's Q	0.5427	> 0.05	Not significant
BS → CA → ROA	0.0323	< 0.05	Significant
BS → CA → Tobin's Q	0.0729	< 0.05	Not significant

Source: Researcher Study, 2025

DISCUSSION

The Effect of ERM on Firm Performance

The empirical results reveal that ERM does not have a significant impact on firm performance, either in terms of accounting-based performance (ROA) or market-based performance (Tobin's Q). This finding suggests that ERM implementation in the sampled manufacturing firms is still procedural and not yet strategically integrated into value creation processes. The absence of significant results may be attributed to low ERM maturity, lack of risk leadership integration, or insufficient strategic alignment. This supports prior studies such as Ricardianto et al. (2023) and Abu & Ibrahim (2022), which found a similar lack of impact. However, it contrasts with other research highlighting ERM's positive influence when implemented comprehensively (Rasyid, 2021; Malik et al., 2020). These results emphasize that the presence of ERM alone is insufficient unless it is embedded strategically within corporate governance and decision-making, and supported by a high-quality, mature ERM framework.

The Effect of Business Strategy on Firm Performance

The results show that cost leadership strategy significantly enhances firm profitability (ROA) but has no significant influence on market valuation (Tobin's Q). This indicates that while operational efficiency through cost control improves financial outcomes, it may not be fully recognized by market participants. These findings align with Rehman & Anwar (2019) and Ricardianto et al. (2023), who highlight cost efficiency as a driver of profitability, particularly in price-sensitive markets like Indonesia. However, the lack of market response suggests that

investors may require visible competitive differentiation beyond cost efficiency to reassess firm value.

The Mediating Role of Competitive Advantage in the Relationship Between ERM and Firm Performance

The mediation analysis indicates that competitive advantage does not significantly mediate the relationship between ERM and firm performance, as ERM does not significantly influence competitive positioning. Although competitive advantage itself positively affects both ROA and Tobin's Q, ERM's inability to shape it limits its role as an indirect performance driver. The Sobel test further confirms that the indirect path from ERM to performance via competitive advantage is statistically insignificant. These findings imply that ERM, as currently implemented in the sampled firms, lacks the strategic depth required to build meaningful differentiation in the market.

The Mediating Role of Competitive Advantage in the Relationship Between Business Strategy and Firm Performance

The results support the mediating role of competitive advantage in the relationship between cost leadership strategy and ROA. Firms that successfully pursue cost efficiency tend to build superior competitive positions, which in turn drive financial performance. The Sobel test confirms this mediation effect, reinforcing theories that link operational strategies to performance through internal capabilities. However, this mediation does not extend to market-based performance (Tobin's Q), likely due to the market's limited visibility of internal efficiency gains. This suggests that while cost leadership enhances internal financial outcomes, additional strategic communication may be required to influence investor perceptions.

CONCLUSION

The results show that ERM does not yet have a significant impact on firm performance, either directly or indirectly through competitive advantage. This indicates that most firms may still view ERM as a compliance requirement rather than a strategic tool, and the current maturity level of ERM implementation may not be sufficient to drive performance improvements. In contrast, the cost leadership strategy demonstrates a significant positive effect on financial performance, particularly in terms of ROA, and contributes meaningfully to building competitive advantage. Furthermore, competitive advantage plays a significant mediating role in the relationship between cost leadership and firm performance, reinforcing the idea that operational efficiency needs to be accompanied by strategic positioning to yield sustainable financial outcomes.

SUGGESTION

Based on the findings, several suggestions are offered. First, company managers should integrate ERM more strategically by embedding it into core business processes, including strategic planning and decision-making frameworks. ERM should be continuously assessed through regular evaluations of its maturity level to ensure it contributes to value creation and competitive positioning. Second, manufacturing firms are encouraged to further develop their cost leadership strategies through ongoing efficiency improvements and cost control, while also innovating to deliver higher customer value. These efforts should be aligned with broader business goals to sustain long-term competitiveness. Third, regulators should strengthen ERM-related regulations by not only requiring formal adoption but also ensuring effective implementation. Establishing guidelines for assessing ERM maturity can help improve its strategic relevance across the sector. Finally, future research should consider exploring other types of business strategies beyond cost leadership, such as differentiation and focus, as well as

examine additional mediating or moderating variables such as ERM quality or environmental uncertainty to provide a more nuanced understanding of the relationship between ERM, strategy, and firm performance across diverse industrial contexts

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