

CEO INFLUENCE AND FIRM PERFORMANCE: THE MEDIATING ROLE OF STRATEGIC RISK-TAKING IN AN EMERGING MARKET

Vivi Junaedi^{1*}, Sumiati¹, Kusuma Ratnawati¹, Himmiyatul Amanah Jiwa Juwita¹.

¹Department of Management, Faculty of Economics and Business, Universitas Brawijaya, 65300 Malang, Indonesia

*corresponding author's email: vivijunaedi@student.ub.ac.id¹

Abstract

Whether and how Chief Executive Officers (CEOs) impact firm performance remains a central, unresolved debate in management research, marked by persistent empirical inconsistencies. This study contends that these conflicting findings stem from a conceptual failure to model the intermediate strategic decisions that transmit executive influence. The study posits that strategic risk-taking, operationalized as entrepreneurial risk (Capital Expenditures) and financial risk (Debt Ratio), constitutes the essential "missing link" connecting a CEO's demographic attributes to organizational performance. We test a comprehensive mediation model using a panel dataset of 280 non-financial firms listed on the Indonesia Stock Exchange (IDX) from 2010 to 2019. Our results reveal that the influence of CEO characteristics is predominantly indirect. Specifically, CEO age and education significantly predict firm performance *through* their influence on capital expenditures, while CEO gender and age operate *via* their impact on the firm's debt ratio. These findings significantly refine Upper Echelons Theory by moving beyond direct-effects models to elucidate the *mechanisms* of executive influence. We offer a more cohesive and causally specified framework for understanding the "CEO effect" within an emerging market's critical yet understudied context.

Keywords: CEO Demographics, Upper Echelons Theory, Strategic Risk-Taking, Firm Performance, Mediation, Emerging Markets

1. Introduction

The "CEO effect", the quantifiable impact of a single leader on organizational outcomes, remains a central and enduring theme within strategic management scholarship. In practice, the importance of the CEO is rarely disputed. Significant abnormal stock returns observed following the sudden death of an incumbent CEO demonstrate that shareholders attribute substantial firm value directly to the individual leader (Quigley et al., 2017). Similarly, the high prevalence of performance-induced CEO turnover underscores the conviction held by boards and investors that the chief executive is directly accountable for organizational results (Jenter & Lewellen, 2021). The academic literature presents a remarkably ambiguous and fragmented picture despite this practical consensus. A substantial corpus of research has linked observable CEO demographic characteristics, such as age, gender, tenure, and education, with firm performance. However, the findings have been persistently inconsistent. For instance, some studies report a negative relationship between CEO age and performance, suggesting younger executives are more innovative (Nguyen et al., 2018), while others find a positive correlation, attributing it to the wisdom of experience (Wang et al., 2016). This empirical ambiguity has led some scholars to fundamentally challenge the magnitude of the CEO effect, arguing that leadership's unique impact is often statistically indistinguishable from random variation (Fitzg, 2017).

This study contends that these discrepancies do not arise because CEOs are inconsequential, but because the predominant research paradigm has been conceptually underspecified. Much prior literature has employed a "black box" methodology, focusing on an overly simplified, direct-

effects model linking CEO attributes to firm performance. This approach largely ignores the intermediary strategic choices through which a leader's influence is channeled. Strategic risk-taking is a critical, underexplored, mediating mechanism to help unlock this black box. By scrutinizing the pivotal decisions leaders make regarding capital investment and financial leverage, we can begin to reconcile the theoretical and empirical gap between a CEO's characteristics and a firm's financial outcomes. This research aims to present a more comprehensive analysis by empirically testing a complete mediation model within Indonesia's emerging economy context. We investigate the mediating role of strategic risk-taking, operationalized via Capital Expenditures (as a proxy for entrepreneurial risk) and Debt Ratio (as a proxy for financial risk), on the relationship between CEO demographics (age, gender, tenure, education) and firm financial performance (measured by ROA, ROE, and Tobin's Q).

Accordingly, this study seeks to ascertain: (1) whether CEO demographic traits exert a direct influence on firm performance; (2) whether these traits significantly predict the firm's strategic risk-taking posture; (3) how strategic risk-taking, in turn, impacts firm performance; and, most crucially, (4) whether strategic risk-taking functions as a significant mediator in the CEO-performance relationship. In addressing these questions, this study offers a more nuanced examination of Upper Echelons Theory (Hambrick & Mason, 1984), moving beyond a direct-effects paradigm to elucidate the specific *mechanisms* of executive influence. Furthermore, by situating our analysis in Indonesia, an emerging economy characterized by a distinct institutional framework (Jahja et al., 2020), we test the theory's applicability and enhance its global generalizability beyond the developed Western contexts in which it was initially conceived.

2. Theoretical Background and Hypothesis Development

2.1. Upper Echelons Theory and the Mediating Role of Strategic Choice

This study is grounded in Upper Echelons Theory, which asserts that organizational outcomes mirror its senior executives' ideals and cognitive biases (Hambrick & Mason, 1984). Hambrick and Mason (1984) contended that intricate strategic scenarios compel executives to understand them through individualized perspectives influenced by their experiences, values, and personalities. Given the challenges in seeing these psychological constructs, the theory suggests that demographic indicators like age, tenure, and education may function as accurate proxies.

A direct correlation between these attributes and performance is conceivable; however, a more nuanced interpretation of the theory indicates that this influence is not inherent but is mediated by the strategic decisions made by leaders (Hambrick & Mason, 1984). The demographic profile of a CEO defines their worldview, which then affects their company strategy decisions; these decisions eventually determine performance outcomes. A crucial strategic decision pertains to the degree of risk the firm is prepared to assume. This study examines strategic risk-taking, operationalized through two specific indicators: Capital Expenditures, indicative of a firm's dedication to long-term, uncertain projects and embodying entrepreneurial risk, and Debt Ratio, which signifies dependence on borrowed capital and represents financial risk. This distinction is vital, as a CEO's profile may incline them to one risk category but not another.

2.2. Agency Theory and Incentives for Risk-Taking

Agency Theory offers an additional perspective for comprehending a CEO's propensity for risk-taking (Jensen & Meckling, 1976). The thesis underscores the possible conflict of interest between a company's principals (shareholders) and its agent (the CEO). Shareholders with diversified portfolios may favor high-risk initiatives that offer substantial rewards. The CEO possesses a substantial portion of their personal and professional wealth invested in the company. A significant

strategic misstep could jeopardize their employment and reputation, rendering them more risk-averse than shareholders may prefer (Chari et al., 2019). This "career risk" may compel CEOs to prefer conservative measures, even at the expense of potentially profitable chances. The personal demographic characteristics of a CEO may influence agency issues, thereby affecting their overall risk posture.

2.3. Hypothesis Development

By integrating these rationales, we establish our principal hypothesis. We first show a direct association between CEO attributes and performance, reflecting the traditional viewpoint in the literature.

H1: The demographic attributes of CEOs (gender, age, tenure, and education) significantly impact the financial performance of companies.

We assert that these attributes influence the mediating variables of strategic risk-taking.

H2: The demographic characteristics of CEOs substantially impact a firm's strategic risk-taking, particularly on capital expenditures and debt ratio.

We subsequently establish the causal chain's definitive link: these strategic decisions affect performance.

H3: Strategic risk-taking significantly impacts a company's financial performance.

We introduce our principal thesis: Strategic risk-taking is the mechanism, or the "missing link," that connects a CEO's profile to their firm's performance.

H4: Strategic risk-taking significantly mediates the relationship between CEO demographic characteristics and firm financial performance.

3. Methodology

3.1. Sample and Data

This research employs a quantitative methodology to assess the hypotheses. The sample comprises 280 non-financial companies listed on the main board of the Indonesia Stock Exchange (IDX), analyzed over a decade from 2010 to 2019. This timeframe was selected because of its relative macroeconomic stability. The dataset comprises an unbalanced panel consisting of 2,003 firm-year observations. Financial data were obtained from audited annual reports, while CEO demographic information was manually pulled from these reports and verified with external sources, including Bloomberg Executive Profiles.

3.2. Variable Measurement

Organizational Performance (Dependent Variables): We utilize three standard metrics: Return on Assets (ROA), which measures operational efficiency; Return on Equity (ROE), which assesses shareholder profitability; and Tobin's Q, which evaluates the market's valuation of the firm relative to its replacement cost, employing the simplified approximation proposed by Chung and Pruitt (1994).

Demographics of the CEO (Independent Variables): We evaluate four attributes: Gender (1 for male, 0 for female), Age (in years), Tenure (years in position), and Education (1 if the CEO has a business/management background, zero otherwise).

Strategic Risk-Taking (Mediating Variables): We utilize two indicators: Capital Expenditures (CapEx), which signifies the total funds designated for the procurement or improvement of tangible assets, and Debt Ratio, calculated as total debt divided by total assets.

Control Variables: To isolate the effects of our primary variables, we consider business size (total fixed assets), industrial sector, and market conditions (year-end composite stock index and its annual return).

3.3. Analytical Strategy

The hypotheses were tested using panel data regression analysis. A systematic model selection process involving the Chow, Lagrange Multiplier, and Hausman tests was used to choose between Fixed-Effects and Random-Effects models for each equation. Given the presence of heteroskedasticity and autocorrelation, Panel-Corrected Standard Errors (PCSE) were applied for Fixed-Effects models, and Generalized Least Squares (GLS) was used for Random-Effects models to ensure robust results. The mediation hypotheses (H4) were formally tested using the Sobel test.

4. Results

4.1. Descriptive Statistics

The sample of CEOs is predominantly male (94.1%), with an average age of 54 years and an average tenure of approximately 7 years. Only 32.5% of CEOs have a formal business education background. The performance and risk-taking variables exhibit considerable variation, indicating significant heterogeneity within the sample.

4.2. Hypothesis Testing

The regression results are presented step-by-step to test each stage of the mediation model.

Path a: Determinants of Strategic Risk-Taking

Table 1 summarizes the effects of CEO demographics on the two strategic risk-taking variables. As predicted by H2, CEO characteristics significantly influence risk-taking, but the patterns differ for each mediator. CEO age significantly negatively affects Capital Expenditures ($\beta = -2.20 \times 10^8$, $p < 0.05$), indicating older CEOs invest less. Conversely, having a business education has a strong positive effect ($\beta = 7.91 \times 10^9$, $p < 0.001$), suggesting these CEOs invest more aggressively. For the Debt Ratio, being a male CEO is associated with higher leverage ($\beta = 0.0323$, $p < 0.05$), and older CEOs also tend to use more debt ($\beta = 0.00162$, $p < 0.01$).

Table 1. Determinants of Strategic Risk-Taking (Mediation Path a)

Variables	Capital Expenditures	Debt Ratio
Gender (1=Male)	-3.40 (4.45)	0.0323* (0.0158)
Age	-0,220 (0.105)	0.00162** (0.00049)
Tenure	0,10 (0.0915)	-0.00012 (0.00051)
Education (1=Business)	7.91*** (1.82)	-0.0101 (0.0084)
Controls	Yes	Yes
Observations	2,003	2,003
R-squared	0.871	0.038

*Note: Coefficients reported with robust standard errors in parentheses. Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Capital expenditures are expressed in IDR Billions*

Paths b and c': Direct and Mediated Effects on Firm Performance

Table 2 presents the full regression models for the three performance outcomes. Both Capital Expenditures and Debt Ratio significantly affect all performance metrics, supporting H3. Capital Expenditures are positively associated with ROA, ROE, and Tobin's Q ($p < 0.001$ for all), suggesting that productive investments enhance performance. The Debt Ratio exhibits a more

complex relationship: it is positively related to ROA but negatively related to both ROE and Tobin's Q.

After controlling for these mediators, some direct effects of CEO demographics remain, partially supporting H1. Being a male CEO significantly negatively affects ROA and Tobin's Q, meaning firms with female CEOs in this sample show superior performance on these metrics. CEO age has a significant positive direct effect on ROA. Tenure and Education show no significant direct effects on any performance metric.

Table 2. Full Regression Models of Firm Performance (Paths b and c')

Variables	ROA	ROE	Tobin's Q
Gender (1=Male)	-0.0104* (0.0053)	-0.0124 (0.0078)	-0.0361*** (0.0082)
Age	0.00046** (0.00015)	0.00033 (0.00029)	0.00008 (0.00020)
Tenure	-0.00021 (0.00017)	0.00014 (0.00032)	0.00016 (0.00020)
Education (1=Business)	0.00161 (0.0027)	0.00217 (0.0043)	0.00030 (0.0031)
Mediators			
Capital Expenditures	0.00000707 (0.00000104)	0.00000943 (0.00000125)	0.00000972*** (0.00000108)
Debt Ratio	0.00044*** (7.38×10 ⁻⁵)	-0.0000832*** (8.09×10 ⁻⁶)	-0.0000793*** (3.18×10 ⁻⁷)
Controls	Yes	Yes	Yes
Observations	2,003	2,003	2,003
R-squared	0.101	0.173	0.200

*Note: Coefficients reported with robust standard errors in parentheses. Significance levels: *** p<0.001, ** p<0.01, * p<0.05. . Capital expenditures are expressed in IDR Billions*

H4: The Full Mediation Model

The results of the Sobel tests, summarized in Table 3, provide the definitive evidence for mediation, strongly supporting H4. Capital Expenditures significantly mediate the relationship between CEO age and education and all three performance outcomes. The Debt Ratio significantly mediates the relationship between CEO gender, age, and performance metrics. These results confirm that strategic risk-taking is a critical "missing link" through which CEO characteristics influence firm performance.

Table 3: Summary of Significant Indirect Effects (Sobel Test Results)

Path	Mediator	Outcome	Result (p-value)
Age → Performance	Capex	ROA, ROE, Tobin's Q	Significant (p<0.05)
Education → Performance	Capex	ROA, ROE, Tobin's Q	Significant (p<0.001)
Gender → Performance	Debt Ratio	ROE, Tobin's Q	Significant (p<0.05)
Age → Performance	Debt Ratio	ROA, ROE, Tobin's Q	Significant (p<0.01)

Note: Summarizes the results of the Sobel tests for the significance of the indirect effects.

5. Discussion

This study investigated the intricate relationship between Chief Executive Officer (CEO) characteristics and firm performance within the dynamic context of an emerging market. The central research objective was to illuminate the "black box" of the CEO effect, the often-assumed but seldom-explained process through which a leader's personal attributes translate into tangible corporate outcomes. To this end, we hypothesized that the influence of CEO demographics is not monolithic and direct but is channeled through the crucial mediating mechanism of strategic risk-taking, operationalized through decisions regarding capital expenditures (entrepreneurial risk) and financial leverage (financial risk). The empirical results support this proposition substantially, revealing a series of indirect pathways connecting the leader to the firm's performance. This discussion will now delve into the substantive meaning and implications of these findings, first by framing them as the discovery of a critical missing link in the literature, and second, by exploring their profound theoretical ramifications for strategic management scholarship.

5.1. The Missing Link Found

The "CEO effect" has remained a partially solved puzzle in strategic management research for decades. While numerous studies have established a statistical link between a particular CEO's presence and firm performance variations, the precise mechanisms governing this influence have mainly been opaque (Mackey, 2008). Our research confronts this ambiguity directly, and the findings provide a clear and compelling answer: the influence of a CEO's profile is predominantly indirect, channeled, and made manifest through the strategic choices they champion, specifically concerning the firm's appetite for entrepreneurial and financial risk. By demonstrating that CEO age, gender, and educational background are systematically linked to decisions on capital expenditures and corporate debt levels, which, in turn, are significant predictors of firm performance metrics like Return on Equity (ROE) and Tobin's Q, this study provides a tangible and testable model of the CEO influence process. We have moved beyond merely asserting that leaders matter to explaining *how* they matter.

This discovery of strategic risk-taking as a mediating variable is a crucial contribution. It explains why prior research attempting to draw a direct line from CEO characteristics to firm performance has often yielded inconsistent, weak, or non-significant results (Hambrick, 2007). Such studies may have been misspecified by omitting the critical intermediate step of strategic choice. Our findings suggest that a CEO's demographic traits function as cognitive and experiential filters, shaping their perception of the environment and subsequent willingness to commit firm resources to uncertain ventures. An older CEO's decision to curtail capital expenditures, for instance, is not an outcome; it is a strategic action, a concrete manifestation of their accumulated experience or shortened career horizon, which has a direct causal link to the firm's growth trajectory and efficiency. Similarly, a male CEO's inclination towards higher financial leverage is not a direct performance driver but a strategic choice about the firm's capital structure that carries significant consequences for financial stability and shareholder value, particularly within the volatile economic landscape of an emerging market like Indonesia.

The salience of these specific risk-taking channels, capital investment (CAPEX), and financial leverage (Debt Ratio) is particularly pronounced in the Indonesian context. Emerging markets are often characterized by significant institutional voids, higher economic and political uncertainty levels, and less developed capital markets (Khanna & Palepu, 2000). In such an environment, the discretion afforded to a CEO is often magnified. Decisions regarding large-scale, long-term capital investments are fraught with greater peril and uncertainty than in stable, developed economies.

Consequently, a CEO's disposition toward risk, shaped by their age and education, becomes a more potent determinant of the firm's investment posture. Likewise, the capital structure choice is not merely a technical financing decision but a high-stakes strategic gamble. Over-leveraging in a market susceptible to sudden currency devaluations or interest rate spikes can be catastrophic. Therefore, the mediating role of these risk-taking variables is not just a statistical artifact but a reflection of the heightened importance of these fundamental strategic choices in a high-stakes setting, making the CEO's personal imprint on them all the more consequential. In essence, we have not just found a missing link; we have identified the primary conduits through which the leader's psychological and experiential world connects to the firm's economic and financial reality.

5.2. Theoretical Implications and Refinements

The empirical validation of our mediation model carries significant implications for several foundational theories in strategic management, most notably Upper Echelons Theory and, by extension, its interplay with Agency Theory. Our findings reaffirm the core tenets of these theories and introduce critical nuances and refinements that pave the way for more sophisticated future research.

5.2.1. A More Nuanced and Powerful Validation of Upper Echelons Theory

The cornerstone of this study is Upper Echelons Theory (UET), which posits that organizational outcomes, both strategic choices and performance levels, reflect the values and cognitive bases of its powerful actors (Hambrick & Mason, 1984). Our findings offer a resounding affirmation of this core premise. However, the contribution extends beyond simple validation. By demonstrating the mediating role of strategic choice, we address one of the theory's most persistent critiques: the often-tenuous direct link between executive demographics and firm performance. Our model provides a more robust and causally coherent version of the UET framework:

This model substantiates the original theoretical formulation by Hambrick and Mason (1984), who explicitly positioned strategic choices as the intermediate outcome of executive characteristics. The inconsistent findings in prior literature likely stemmed from a failure to model these indirect pathways, leading to an underestimation of the actual influence of the upper echelon. Our research rectifies this by showing that the "signal" from a CEO's demographic profile is transmitted through the "channel" of strategic risk-taking before it is received as "performance" at the organizational level. It provides UET with greater explanatory power and predictive validity.

Furthermore, our findings emphasize that the observable, demographic characteristics we measured (age, gender, and education) are not determinants but are effective proxies for deeper psychological and cognitive constructs such as experience, cognitive framing, and personal values. An MBA, for example, is not just a credential; it represents a specific type of training in analytical frameworks that likely shapes how a leader perceives and evaluates investment opportunities (a cognitive influence), predisposing them toward higher CAPEX. This study thus reinforces the view that demographics are the "tip of the iceberg," providing measurable indicators of the underlying managerial psychology that drives strategic behavior.

5.2.2. The Domain-Specificity of Risk Preference

Perhaps this study's most theoretically intriguing finding is the multidimensional nature of CEO risk-taking. We found that older CEOs simultaneously exhibit greater conservatism in entrepreneurial risk (lower capital expenditures) and greater aggressiveness in financial risk (higher debt ratio). This directly challenges the conventional treatment of risk preference as a monolithic, unidimensional personality trait. It suggests that a CEO can be risk-averse in one

strategic domain while being risk-seeking in another, forcing a significant refinement of how both UET and Agency Theory conceptualize risk.

This apparent paradox can be reconciled by considering the distinct nature of these two forms of risk.

- Entrepreneurial Risk (CAPEX) involves committing firm capital to unique, often irreversible, and operationally complex projects with uncertain long-term payoffs. It is a bet on the firm's ability to innovate and execute in the real economy. An older CEO's conservatism here may stem from several factors predicted by UET. A shorter career horizon may reduce the incentive to champion projects whose benefits will only materialize after they retire (Gibbons & Murphy, 1992). Furthermore, their accumulated experience in a volatile emerging market may have taught them a healthy skepticism about overly optimistic growth forecasts, leading to a more cautious "wisdom" based approach to significant investments.
- Conversely, financial Risk (Debt Ratio) concerns the firm's capital structure. While higher debt increases the risk of financial distress, it is also a familiar and standardized tool. For a seasoned CEO, using leverage might be perceived as a more controllable and predictable form of risk compared to the idiosyncratic uncertainties of a new factory or product line. This decision also intersects with Agency Theory (Jensen & Meckling, 1976). Higher debt can serve as a disciplinary mechanism, reducing free cash flow that might otherwise be used for managerial perquisite consumption or inefficient empire-building. An older, more established CEO might use debt strategically to signal confidence to the market or to impose discipline on the organization, viewing it as a prudent financial management tool rather than a reckless gamble.

This finding, that risk preference is domain-specific, requires a more sophisticated theoretical integration. It suggests that a leader's personal attributes (e.g., age-related experience and career horizon from UET) interact with the specific characteristics of the decision (e.g., the nature of the risk and its alignment with agency concerns). Future UET research must therefore move beyond asking "Is this CEO risk-averse?" and instead ask, "Under what conditions and in which specific strategic domains is this CEO likely to exhibit risk-averse or risk-seeking behavior?" It represents a significant step towards a more granular and realistic model of executive decision-making.

5.2.3. The Gender-Leverage-Performance Pathway

The strongly supported pathway linking CEO gender to financial leverage and, subsequently, to firm performance is particularly revealing and offers a nuanced contribution to the literature on leadership and gender. Our finding that male CEOs in the Indonesian context employ higher debt ratios, and that this higher leverage is associated with *lower* ROE and Tobin's Q, provides compelling evidence of a particular form of risk-taking that appears misaligned with shareholder interests.

This result can be interpreted through managerial overconfidence, a behavioral trait that research has shown to be, on average, more pronounced in men (Barber & Odean, 2001). Overconfident CEOs may overestimate their ability to manage high debt levels and harbor overly optimistic forecasts about their firm's future cash flows. They may therefore take on excessive leverage in the belief that it will magnify returns, without adequately pricing in the substantial downside risks. This tendency can be especially destructive in an emerging market. The Indonesian economy is subject to greater macroeconomic volatility, including currency fluctuations and sudden shifts in interest rate policy. In this environment, a highly leveraged firm is fragile and vulnerable. A

strategy of aggressive financial leverage that might be viable in a stable, low-interest-rate developed economy becomes a high-risk gamble that, according to our data, does not pay off for shareholders in Indonesia. The negative relationship between this male-led leverage strategy and performance metrics suggests that this behavior leads to value destruction, not value creation.

This finding refines the discourse on gender in leadership. It moves beyond a simplistic debate over whether male or female leaders are "better" and instead focuses on the substantive differences in their strategic choices and the context-dependent consequences of those choices. Therefore, the relative financial conservatism implied for female CEOs should not be reflexively labeled as "risk aversion" in a negative sense. Instead, it may represent a more prudent and value-preserving capital structure strategy in a high-volatility environment. This lends support to the idea that gender diversity on executive teams is not simply a matter of equity but can be a source of strategic strength, potentially tempering excessive risk-taking and leading to more resilient financial policies that are better suited to the environmental context. This pathway demonstrates a clear case where a demographic trait, through its influence on a specific strategic risk choice, has a tangible and negative impact on firm value, providing a powerful and cautionary tale for corporate governance.

5.2. Theoretical Implications and Refinements

The empirical validation of our mediation model carries significant implications for several foundational theories in strategic management, most notably Upper Echelons Theory and, by extension, its interplay with Agency Theory. Our findings reaffirm the core tenets of these theories and introduce critical nuances and refinements that pave the way for more sophisticated future research.

5.2.1. *A More Nuanced and Powerful Validation of Upper Echelons Theory*

The cornerstone of this study is Upper Echelons Theory (UET), which posits that organizational outcomes, both strategic choices and performance levels, reflect the values and cognitive bases of its powerful actors (Hambrick & Mason, 1984). Our findings offer a resounding affirmation of this core premise. However, the contribution extends beyond simple validation. By demonstrating the mediating role of strategic choice, we address one of the theory's most persistent critiques: the often-tenuous direct link between executive demographics and firm performance. Our model provides a more robust and causally coherent version of the UET framework:

This model substantiates the original theoretical formulation by Hambrick and Mason (1984), who explicitly positioned strategic choices as the intermediate outcome of executive characteristics. The inconsistent findings in prior literature likely stemmed from a failure to model these indirect pathways, leading to an underestimation of the actual influence of the upper echelon. Our research rectifies this by showing that the "signal" from a CEO's demographic profile is transmitted through the "channel" of strategic risk-taking before it is received as "performance" at the organizational level. It provides UET with greater explanatory power and predictive validity.

Furthermore, our findings emphasize that the observable, demographic characteristics we measured (age, gender, and education) are not determinants but are effective proxies for deeper psychological and cognitive constructs such as experience, cognitive framing, and personal values. An MBA, for example, is not just a credential; it represents a specific type of training in analytical frameworks that likely shapes how a leader perceives and evaluates investment opportunities (a cognitive influence), predisposing them toward higher CAPEX. This study thus reinforces the view that demographics are the "tip of the iceberg," providing measurable indicators of the underlying managerial psychology that drives strategic behavior.

5.2.2. *The Domain-Specificity of Risk Preference*

Perhaps this study's most theoretically intriguing finding is the multidimensional nature of CEO risk-taking. We found that older CEOs simultaneously exhibit greater conservatism in entrepreneurial risk (lower capital expenditures) and greater aggressiveness in financial risk (higher debt ratio). This directly challenges the conventional treatment of risk preference as a monolithic, unidimensional personality trait. It suggests that a CEO can be risk-averse in one strategic domain while being risk-seeking in another, forcing a significant refinement of how both UET and Agency Theory conceptualize risk.

This apparent paradox can be reconciled by considering the distinct nature of these two forms of risk.

- Entrepreneurial Risk (CAPEX) involves committing firm capital to unique, often irreversible, and operationally complex projects with uncertain long-term payoffs. It is a bet on the firm's ability to innovate and execute in the real economy. An older CEO's conservatism here may stem from several factors predicted by UET. A shorter career horizon may reduce the incentive to champion projects whose benefits will only materialize after they retire (Gibbons & Murphy, 1992). Furthermore, their accumulated experience in a volatile emerging market may have taught them a healthy skepticism about overly optimistic growth forecasts, leading to a more cautious "wisdom" based approach to significant investments.
- Conversely, financial Risk (Debt Ratio) concerns the firm's capital structure. While higher debt increases the risk of financial distress, it is also a familiar and standardized tool. For a seasoned CEO, using leverage might be perceived as a more controllable and predictable form of risk compared to the idiosyncratic uncertainties of a new factory or product line. This decision also intersects with Agency Theory (Jensen & Meckling, 1976). Higher debt can serve as a disciplinary mechanism, reducing free cash flow that might otherwise be used for managerial perquisite consumption or inefficient empire-building. An older, more established CEO might use debt strategically to signal confidence to the market or to impose discipline on the organization, viewing it as a prudent financial management tool rather than a reckless gamble.

This finding, that risk preference is domain-specific, requires a more sophisticated theoretical integration. It suggests that a leader's personal attributes (e.g., age-related experience and career horizon from UET) interact with the specific characteristics of the decision (e.g., the nature of the risk and its alignment with agency concerns). Future UET research must therefore move beyond asking "Is this CEO risk-averse?" and instead ask, "Under what conditions and in which specific strategic domains is this CEO likely to exhibit risk-averse or risk-seeking behavior?" It represents a significant step towards a more granular and realistic model of executive decision-making.

5.2.3. *The Gender-Leverage-Performance Pathway*

The strongly supported pathway linking CEO gender to financial leverage and, subsequently, to firm performance is particularly revealing and offers a nuanced contribution to the literature on leadership and gender. Our finding that male CEOs in the Indonesian context employ higher debt ratios, and that this higher leverage is associated with *lower* ROE and Tobin's Q, provides compelling evidence of a particular form of risk-taking that appears misaligned with shareholder interests.

This result can be interpreted through managerial overconfidence, a behavioral trait that research has shown to be, on average, more pronounced in men (Barber & Odean, 2001). Overconfident

CEOs may overestimate their ability to manage high levels of debt and harbor overly optimistic forecasts about their firm's future cash flows. They may, therefore, take on excessive leverage in the belief that it will magnify returns without adequately pricing in the substantial downside risks. This tendency can be especially destructive in an emerging market. The Indonesian economy is subject to greater macroeconomic volatility, including currency fluctuations and sudden shifts in interest rate policy. In this environment, a highly leveraged firm is fragile and vulnerable. A strategy of aggressive financial leverage that might be viable in a stable, low-interest-rate developed economy becomes a high-risk gamble that, according to our data, does not pay off for shareholders in Indonesia. The negative relationship between this male-led leverage strategy and performance metrics suggests that this behavior leads to value destruction, not value creation. This finding refines the discourse on gender in leadership. It moves beyond a simplistic debate over whether male or female leaders are "better" and instead focuses on the substantive differences in their strategic choices and the context-dependent consequences of those choices. Therefore, the relative financial conservatism implied for female CEOs should not be reflexively labeled as "risk aversion" in a negative sense. Instead, it may represent a more prudent and value-preserving capital structure strategy in a high-volatility environment. This lends support to the idea that gender diversity on executive teams is not simply a matter of equity but can be a source of strategic strength, potentially tempering excessive risk-taking and leading to more resilient financial policies that are better suited to the environmental context. This pathway demonstrates a clear case where a demographic trait, through its influence on a specific strategic risk choice, has a tangible and negative impact on firm value, providing a powerful and cautionary tale for corporate governance.

5.3. Practical Implications

The findings offer actionable guidance for corporate boards and investors.

For Boards of Directors: The CEO selection process must align a candidate's demographic profile with the firm's desired strategic risk posture. A CEO with a business education may be optimal for a firm seeking aggressive, innovation-led growth due to a demonstrated propensity for higher, value-creating capital expenditures. Conversely, for a firm prioritizing stability, an older CEO may be preferable for their operational efficiency gains; however, the board must concurrently implement governance mechanisms to monitor their tendency towards higher financial leverage.

For Investors and Analysts: CEO demographics can be an observable signal of a firm's likely future strategy. For instance, the appointment of an older CEO may signal a forthcoming reduction in capital investment but an increase in debt, with predictable consequences for performance. Our findings provide a data-driven framework for analysts to update their valuation models based on these demographic shifts at the executive level.

5.4. Limitations and Future Research

This study is subject to several limitations. First, our reliance on observable demographic data cannot capture psychological traits (e.g., overconfidence) that may also drive risk-taking. Second, the severe gender imbalance in our sample, while reflective of reality, limits the statistical power of our gender-related findings. Finally, the R-squared values in some models indicate that many other factors influence firm performance. Future research could explore additional mediators (e.g., M&A activity) and moderators (e.g., ownership structure) to build a more comprehensive model of the CEO effect.

6. Conclusion

The long-standing debate over the magnitude and nature of the CEO effect has often been marked by empirical inconsistency and theoretical ambiguity. This study sought to resolve this by moving beyond whether CEOs matter to explain *how* they matter. Our research provides a compelling answer, identifying strategic risk-taking as the critical "missing link" that connects a leader's personal characteristics to their firm's financial performance. We demonstrate that the influence of a CEO is not a monolithic, direct force, but an indirect one, channeled through tangible decisions that define a company's strategic posture.

Within the dynamic and often uncertain context of an emerging market like Indonesia, we found that a CEO's age, gender, and educational background systematically influence their choices regarding capital investment (entrepreneurial risk) and financial leverage (financial risk). These strategic choices, the commitment of capital to growth or the structuring of the balance sheet, ultimately and most directly drive firm returns and market valuation. By illuminating this crucial mediation mechanism, our research offers a more powerful and causally coherent validation of Upper Echelons Theory. We show that demographic attributes are proxies for cognitive frames and experiences translated into specific, consequential actions.

This study's primary contribution is the empirical unlocking of the "black box" of CEO influence. For corporate boards and investors, the findings suggest that evaluating leadership should transcend a simple resume review; it requires a deeper consideration of how a candidate's background might shape their philosophy on risk and strategy. This paper provides a more sophisticated and robust understanding of the CEO effect by shifting the analytical focus from a direct, often weak, link between leader and outcome to the intermediate role of strategic choice.

References

- Bhagat, S., Bolton, B. J., & Subramanian, A. (2012). CEO Education, CEO Turnover, and Firm Performance. *SSRN Electronic Journal*.
- Chari, M. D. R., David, P., Duru, A., & Zhao, Y. (2019). Bowman's risk-return paradox: An agency theory perspective. *Journal of Business Research*, 95, 357-375.
- Chung, K. H., & Pruitt, S. W. (1994). A simple approximation of Tobin's q. *Financial Management*, 23(3), 70-74.
- D'Mello, R., & Miranda, M. (2010). Long-term debt and overinvestment agency problem. *Journal of Banking and Finance*, 34(2), 324-335.
- Eberhart, A. C., Maxwell, W. F., & Siddique, A. R. (2004). An Examination of Long-Term Abnormal Stock Returns and Operating Performance Following R&D Increases. *The Journal of Finance*, 59(2), 623-650.
- Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance*, 39, 193-209.
- Fitza, M. A. (2014). The use of variance decomposition in the investigation of CEO effects: How large must the CEO effect be to rule out chance? *Strategic Management Journal*, 35(12), 1839-1852.
- Fitza, M. A. (2017). How much do CEOs really matter? Reaffirming that the CEO effect is mostly due to chance. *Strategic Management Journal*, 38(3), 802-811.
- Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers. *Academy of Management Review*, 9(2), 193-206.

- Jahja, J., Mohammed, N. F., Lokman, N., & Mohamed, N. (2020). Corporate Governance, Managerial Diversion, and Indonesian State-Owned Enterprises: A Literature Review. *International Journal of Financial Research*, 11(5), 510.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jenter, D., & Lewellen, K. (2021). Performance-Induced CEO Turnover. *Review of Financial Studies*, 34(2), 569-617.
- Nguyen, P., Rahman, N., & Zhao, R. (2018). CEO characteristics and firm valuation: a quantile regression analysis. *Journal of Management and Governance*, 22(1), 133-151.
- Quigley, T. J., Crossland, C., & Campbell, R. J. (2017). Shareholder perceptions of the changing impact of CEOs: Market reactions to unexpected CEO deaths, 1950-2009. *Strategic Management Journal*, 38(4), 939-949.
- Saidu, S. (2019). CEO characteristics and firm performance: focus on origin, education and ownership. *Journal of Global Entrepreneurship Research*, 9(1).
- Serfling, M. A. (2014). CEO age and the riskiness of corporate policies. *Journal of Corporate Finance*, 25, 251-273.
- Wang, G., Holmes, R. M., Oh, I. S., & Zhu, W. (2016). Do CEOs Matter to Firm Strategic Actions and Firm Performance? A Meta-Analytic Investigation Based on Upper Echelons Theory. *Personnel Psychology*, 69(4), 775-862.