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Seasoned Leadership and Corporate Success: The Role of CEO Age in Accounting and Market Returns

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***Abstract*— This study investigates the relationship between CEO age and firm performance using a panel of 17,948 firm-year observations from 1,729 non-financial, non-governmental firms listed on the NSE from 2009 to 2023. Firm performance is examined across two dimensions: accounting-based (ROA) and market-based (stock returns) measures. The results reveal a consistent and statistically significant positive association between CEO age and both performance outcomes, suggesting that older CEOs contribute to improved profitability and investor confidence. These findings challenge the conventional inverted U-shaped narrative and highlight the value of experienced leadership, particularly in emerging market contexts like India.**

***Index Terms*— CEO age, ROA, RET, India**

I. INTRODUCTION

The strategic role of top executives, especially Chief Executive Officers (CEOs), in influencing firm outcomes has been widely recognized in corporate governance and strategic management literature. Among various CEO attributes, age emerges as a crucial demographic factor shaping leadership style, risk preferences, and long-term decision-making [1]. As firms operate in increasingly complex and uncertain environments, understanding the implications of CEO age for both accounting and market-based performance has become more important than ever. Over the past decades, the average age of CEOs has steadily increased, reflecting longer professional tenures and growing board preference for experienced leaders. While some scholars argue that older CEOs may become conservative or cognitively rigid, others highlight their strategic maturity, emotional stability, and accumulated experience as advantages for firm performance [2]. This study contributes to this debate by empirically examining the relationship between CEO age and firm performance, disaggregating outcomes into accounting measures (e.g., ROA) and market-based indicators (e.g., stock returns).

Drawing on Upper Echelons Theory [1], the study argues that older CEOs through deep industry knowledge and refined judgment positively affect firm operations and investor confidence. Complementing this, behavioral theories suggest that older CEOs' long-term orientation and cautious decision-making may be especially valuable in high-volatility environments such as the post-pandemic period [3]. Contrary to views suggesting a nonlinear or inverted U-shaped effect, this study finds a positive and linear relationship between CEO age and firm performance. Recent evidence from [4] and [3] supports this assertion, showing that firms led by older CEOs in emerging markets exhibit superior profitability and shareholder value.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 CEO Age and Accounting-Based Firm Performance

Market-based firm performance, such as stock returns, captures investor expectations, perceived future profitability, and firm value. While younger CEOs are often linked to innovation and bold strategies, older CEOs bring qualities like stability, reliability, and strategic foresight, which can enhance investor confidence, especially during uncertain periods [5]. [3] show that firms led by older CEOs delivered higher shareholder returns during the COVID-19 pandemic due to better risk management and resilience. These findings challenge the belief that youth guarantees market success. Older CEOs are also viewed as more competent by analysts and institutional investors, with their experience enabling clearer expectations around strategic consistency and governance factors that often contribute to stronger stock market evaluations.

Hypothesis 1: *CEO age is positively associated with firm accounting performance.*

2.2 CEO Age and Market-Based Firm Performance

Market-based firm performance, such as stock returns, reflects investor expectations, future profitability, and overall value creation. While traits like innovation and boldness are often linked with younger CEOs, qualities associated with older CEOs such as stability, reliability, and strategic foresight can significantly enhance investor confidence, particularly during times of uncertainty [6]. Recent evidence supports this view; [3] find that firms led by older CEOs achieved higher shareholder returns during the COVID-19 crisis due to better risk management and leadership resilience. These findings challenge the notion that youth is synonymous

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with market success. Older CEOs are also often seen as more competent by analysts and institutional investors, with their leadership histories offering clearer expectations of consistency and governance, which can translate into favorable market valuations.

Hypothesis 2: *CEO age is positively associated with firm stock market performance.*

III. DATA

The study analyzes more than 17,948 firm-year observations covering 1,729 non-financial, non-governmental firms listed on the NSE between 2009 and 2023, excluding entities from the financial, utility, and public sectors. CEO specific information is manually collected from company websites, annual reports, Bloomberg, and LinkedIn. In cases where a CEO is not explicitly identified, the individual holding an equivalent executive role is considered. Data on firm-level characteristics and corporate governance is sourced from the Prowess IQ database. We have taken Roa as an accounting based measure and RET as a market based measure for firm performance.

IV. METHODOLOGY

Using multivariate panel data regression, we first examine the relationship between CEO age and firm performance, where Roa is an accounting based measure and RET is a market based measure for firm performance. The model specifications are outlined in Equations 1, 2 below:

$\text{Ln}(Roa)_{i,t} = \alpha_0 + \beta_1 * \text{CEO Age}_{i,t} + X_{i,t} + \text{Industry effects} + \text{Year effects} + e_{i,t}$ ……**Eqn.(1)**

$\text{Ln}(RET)_{i,t} = \alpha_0 + \beta_1 * \text{CEO Age}_{i,t} + X_{i,t} + \text{Industry effects} + \text{Year effects} + e_{i,t}$ ……**Eqn.(2)**

V. EMPIRICAL RESULTS

5.1 Descriptive statistics

Table 1: Descriptive statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
ROA	25935	3.855	8.416	-28.71	29.14
RET	17731	.011	.067	-.249	.199
CEO age	17948	55.255	10.748	22	94
CEO holding	25935	.079	.138	0	.9
Board size	22942	1.977	.53	0	3.219
Firm age	24944	3.114	.82	0	5.075
Leverage	24020	-2.144	1.752	-6.205	-.588
Firm Size	24020	8.337	2.068	-2.303	16.09

Table 1 reports the descriptive statistics for the core variables employed in this study. The sample comprises publicly listed non-financial firms in India observed over the 2010–2023 period, resulting in an unbalanced panel. The number of firm-year observations varies across variables, ranging from approximately 17,731 to 25,935 contingent on data availability.

The mean value of return on assets (ROA), our primary accounting-based performance measure, is 3.86%, with a standard deviation of 8.42%. The substantial range, from −28.71% to 29.14%, reflects considerable dispersion in profitability, suggesting the sample spans both severely underperforming and highly efficient firms. This variation is critical for isolating the firm-level economic consequences of CEO characteristics across heterogeneous performance conditions. Firm-level market performance, proxied by stock returns (RET), has a sample mean of 1.1% and a standard deviation of 6.7%. The distribution ranges from −24.9% to 19.9%, indicative of significant volatility in capital market outcomes and investor sentiment over the sample period. This heterogeneity enhances our ability to assess the performance sensitivity of CEO pay structures.

The average CEO age is 55.26 years, with a dispersion of 10.75 years and an observed range from 22 to 94 years. This broad age variation captures both younger, potentially more risk-tolerant CEOs and older, more experienced executives, offering a rich context for analyzing age-related effects on strategic behavior and compensation. CEO ownership of firm equity averages 7.9%, with a relatively large standard deviation of 13.8%, and a range extending up to 90%. This variability enables the study to evaluate the influence of incentive alignment mechanisms on compensation design and risk-taking behavior.

Board size, logged for normalization, exhibits a mean of 1.98 and a standard deviation of 0.53, with values spanning from 0 to 3.22. The variation in board size may reflect differences in governance architecture and the extent of board oversight across firms. Firm age, also in logarithmic form, has a mean of 3.11 and a standard deviation of 0.82. The range (0 to 5.08) indicates a mix of mature firms and relatively newer entrants, which may differ in organizational complexity and governance experience. The average leverage ratio is −2.14, derived from the logarithm of the debt-to-assets ratio, which is typically less than one in magnitude. The range (−6.21 to −0.59) underscores broad differences in financial structure, which could influence CEO discretion and the risk-reward balance embedded in pay packages. Finally, firm size, measured as the logarithm of total assets, has a mean of 8.34

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and a standard deviation of 2.07. The distribution ranges from −2.30 to 16.09, reflecting pronounced disparities in operational scale. Such heterogeneity is vital for disentangling the effects of organizational complexity on compensation differentials.

Overall, these statistics reveal extensive cross-sectional variation in firm and CEO characteristics, providing a robust empirical basis for investigating the determinants of firm performance and its interaction with CEO age.

5.2 CEO age and firm performance (accounting returns)

Table 2: CEO age and firm performance (ROA)

	(1)	(2)	(3)	(4)
VARIABLES	ROA	ROA	ROA	ROA
CEO age	0.031***	0.023***	0.026***	0.025***
	(0.006)	(0.005)	(0.005)	(0.005)
CEO holding		1.295***	1.564***	1.637***
		(0.408)	(0.408)	(0.400)
Board size		0.463***	0.353**	-0.153
		(0.145)	(0.145)	(0.144)
Firm age		-0.426***	-0.422***	-0.692***
		(0.096)	(0.095)	(0.097)
Leverage		-1.716***	-1.726***	-1.734***
		(0.034)	(0.034)	(0.035)
Firm Size		0.298***	0.325***	0.448***
		(0.040)	(0.040)	(0.040)
Constant	3.122***	-2.323***	-1.940***	-3.657***
	(0.315)	(0.444)	(0.499)	(1.409)
Industry effect	NO	NO	NO	YES
Year effect	NO	NO	YES	YES
Observations	17,948	17,634	17,634	17,577
R-squared	0.002	0.137	0.145	0.202

Table 2 presents the results of four regression models estimating the impact of CEO age on firm performance, proxied by Return on Assets (ROA). The models progressively introduce governance and firm-specific controls as well as fixed effects to account for unobserved heterogeneity across time and industry. Across all specifications, the coefficient on CEO age is positive and statistically significant at the 1% level, ranging from 0.023 to 0.031. This consistent significance across all four models provides robust empirical support for the argument that older CEOs are associated with higher firm performance. These findings align with the upper echelons theory [1], which posits that executive demographics such as age can influence strategic decision-making and firm outcomes. The results suggest that CEO experience, often proxied by age, enhances a firm's operational efficiency and strategic leadership, potentially through accumulated industry knowledge and managerial acumen.

The introduction of additional controls in Models (2) through (4) further clarifies the determinants of firm performance. CEO equity ownership exhibits a strong positive effect on ROA (e.g., coefficient = 1.637 in Model 4), indicating that financial alignment between the CEO and shareholders enhances performance, consistent with agency theory [7]. Board size is positively associated with performance in Models (2) and (3), but its effect turns insignificant in Model (4) after incorporating year and industry fixed effects, suggesting the role of board composition may be context-specific. Firm age shows a consistently negative and significant association with ROA, potentially reflecting bureaucratic inertia or diminishing adaptability in older firms. Leverage, unsurprisingly, is negatively and significantly associated with performance across all specifications, highlighting the detrimental effect of high debt burdens on firm profitability. Conversely, firm size shows a positive and significant effect, suggesting that scale advantages contribute positively to financial outcomes.

The model fit improves with each specification, with R-squared increasing from 0.002 in Model (1) to 0.202 in Model (4). This progression underscores the importance of controlling for governance and firm-level characteristics as well as time and industry heterogeneity when examining CEO-level effects on performance. Collectively, the findings reinforce the notion that CEO age, as a proxy for experience and strategic maturity, plays a meaningful role in shaping firm-level financial outcomes. This evidence contributes to the literature on executive characteristics and firm performance by substantiating the positive influence of demographic maturity on corporate efficiency, particularly within the Indian firms context.

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5.3 CEO age and firm performance (stock market returns)

Table 3 presents the regression estimates assessing the impact of CEO age on firm performance, measured by stock returns (RET), across four model specifications. The results offer nuanced insights into the relationship between CEO age and market-based performance, with additional controls progressively added across the models.

Table 3: CEO age and firm performance (RET)

VARIABLES	(1) RET	(2) RET	(3) RET	(4) RET
CEO age	0.004*	0.002	0.005**	0.006**
	(0.003)	(0.003)	(0.002)	(0.002)
CEO holding		-0.012***	-0.005*	-0.005
		(0.004)	(0.003)	(0.003)
Board size		0.009***	0.006***	0.006***
		(0.002)	(0.002)	(0.002)
Firm age		0.002**	0.002***	0.002**
		(0.001)	(0.001)	(0.001)
Leverage		-0.000	-0.001***	-0.001***
		(0.000)	(0.000)	(0.000)
Firm Size		0.000	0.000	0.001*
		(0.000)	(0.000)	(0.000)
Constant	-0.005	-0.020*	0.035***	0.046***
	(0.010)	(0.011)	(0.009)	(0.014)
Industry effect	NO	NO	NO	YES
Year effect	NO	NO	YES	YES
Observations	14,558	14,451	14,451	14,397
R-squared	0.001	0.004	0.291	0.296

In Model (1), CEO age has a positive and marginally significant coefficient (0.004, $p < 0.10$), suggesting a tentative positive relationship between CEO age and stock returns. However, this relationship becomes statistically insignificant in Model (2) once governance variables are introduced, such as CEO holding, board size, and firm age. This attenuation indicates that the effect of CEO age on performance may be partly mediated by governance structures. When year fixed effects are incorporated in Model (3), the coefficient for CEO age increases in magnitude (0.005) and becomes significant at the 5% level, implying that accounting for temporal macroeconomic and firm-specific shocks sharpens the observed relationship. In Model (4), which includes both industry and year effects, the coefficient for CEO age remains positive and statistically significant (0.006, $p < 0.05$), reinforcing the robustness of the age-performance relationship in market valuation terms.

Among the control variables, CEO holding shows a consistently negative relationship with stock returns in Models (2) and (3), aligning with prior evidence that excessive ownership concentration may reduce market discipline or signal entrenchment. Board size positively and significantly affects returns across all models, suggesting that larger boards may provide better oversight or strategic diversity. Firm age also shows a modest but consistently positive effect, while leverage demonstrates a negative impact on performance once fixed effects are included, reflecting investor sensitivity to financial risk.

The model's explanatory power improves notably with the inclusion of fixed effects, as seen in the jump in R-squared from 0.004 in Model (2) to 0.296 in Model (4). This increase underscores the relevance of unobserved industry and time-specific factors in explaining firm return variability. Overall, the findings suggest that CEO age is positively associated with stock market performance, particularly after controlling for time and industry effects. These results contribute to the growing literature on executive demographics and market-based valuation, indicating that age-related experience and perceived stability may enhance investor confidence.

VI. CONCLUSION

This study explores the relationship between CEO age and firm performance using a panel of 17,948 firm-year observations from Indian non-financial, non-governmental listed firms over the period 2009–2023. Firm performance is measured through both accounting-based indicators (ROA) and market-based outcomes (stock returns). The findings reveal a consistent and statistically significant positive relationship between CEO age and accounting performance, suggesting that older CEOs possibly due to their experience, strategic maturity, and risk-averse behaviour contribute positively to firm profitability. CEO age also shows a positive association with stock market returns, particularly when controlling for year and industry effects, indicating that investors value leadership stability and experience.

These findings have important managerial and policy implications. Rather than viewing age as a constraint, boards should recognize the strategic advantage that experienced

CEOs offer, particularly in uncertain or complex business environments. For investors, CEO age may act as a signal of leadership quality and firm resilience. This study contributes to the literature by (i) separating accounting and market-based performance, offering a nuanced view of CEO age effects; (ii) providing robust evidence for a positive linear relationship, countering the typical inverted U-shaped assumption; and (iii) offering context-specific insights from India, an emerging market with unique governance structures. Future studies may investigate moderating factors such as industry dynamics or CEO tenure.

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