

Leadership demographics and financial performance: Evidence from Vietnam's transport sector



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ABSTRACT

This study aims to analyze the trends and effects of the gender and age of company leaders on financial performance. Data were collected from 54 transportation companies listed on the Vietnamese stock market during the period from 2017 to 2023. Financial performance is assessed using indicators such as Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q ratio. Sequential regression methods, including OLS, FEM, and REM, are employed to determine the most appropriate model. FGLS and SGMM regressions are applied to address issues such as heteroscedasticity, autocorrelation, endogeneity, and dynamic effects in panel data. The results indicate that the gender of the Chairman of the Board (COB) is associated with lower ROA but higher ROE and Tobin's Q. Conversely, the gender of the Chief Executive Officer (CEO) negatively affects all three indicators, particularly ROE. Older chairmen are associated with higher ROA and ROE, while older CEOs are associated with higher Tobin's Q but lower ROE. To the best of our knowledge, this is the first study to examine the combined influence of both CEO and COB characteristics on the financial performance of listed Vietnamese transportation companies. This research also extends the understanding of Upper Echelons Theory (UET), Behavioral Finance Theory (BFT), and Resource Dependency Theory (RDT) by providing empirical evidence on how the gender and age of COBs and CEOs relate to corporate financial performance. The findings have important implications for improving the financial performance of Vietnamese transportation companies and provide a solid empirical foundation for shareholders and firms when considering key attributes in recruiting, appointing, hiring, or training chairmen and CEOs.

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1. Introduction

The transportation industry plays a vital role in many areas, including production, trade, logistics, and supply chains within each country's economy (Avhale et al., 2021). The performance of transportation companies directly influences the supply chain, commodity prices, and economic growth. Yazdi et al. (2022) highlighted the importance of strategic decision-making processes in transportation-related sectors by examining supplier selection in the oil and gas industry. Turan and Ozturkoglu (2022) recognized the crucial role of

logistics in transporting and storing perishable goods. Studies have emphasized the transportation sector's significance for policy development and sustainable growth while addressing environmental challenges (Alacam and Sencer, 2021).

Financial performance measures a company's profitability and remains a key concern for managers and business leaders (Lim and Rokhim, 2021). It indicates the company's ability to survive and grow sustainably. Several factors influence financial performance, including internal, industry-specific, and macroeconomic elements. Although previous research has clarified the link between leadership traits and financial performance, results are still inconsistent. Various leadership traits have been studied, such as gender, age, tenure, education, experience, expertise, duality, ownership, nationality, and marital status. Some findings suggest leadership traits positively impact financial performance, while others show a negative or no relationship. Ujunwa (2012) found that board size,

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CEO duality, and gender diversity negatively affected company performance, whereas nationality, ethnicity, and the presence of PhD holders on the board had positive effects. Wadongo et al. (2010) demonstrated that board age, the proportion of independent directors, and female directors significantly increase profitability. Kallias et al. (2023) observed that companies led by CEOs with postgraduate degrees experienced higher profitability three years after going public compared to traditional firms. Mukherjee and Sen (2022) found that female CEOs and CEO compensation positively relate to financial performance, whereas CEO busyness has a negative effect. They also noted that CEO age negatively impacts financial performance, and that educational qualifications are not strongly linked to firm performance. Espinosa-Méndez and Inostroza Correa (2022) reported a positive association between female CEOs and company performance. However, CEO socio-demographic factors such as age, experience, and marital status did not show a statistically significant effect.

Regarding COBs, fewer studies have explored how COB characteristics influence financial performance, partly because they play a less prominent role in corporate management. The CEO is often considered the most influential figure (Daily and Johnson, 1997), responsible for decision-making and overseeing operations (Wang et al., 2023). In a company, the CEO holds the top position and guides for strategic decisions and overall management (Suherman et al., 2023). Al-Matari (2022) suggested that a COB with accounting or finance experience is associated with better performance. Peni (2014) identified a positive link between the presence of female CEOs or COBs and company performance. He also found mixed results regarding the age of CEOs or COBs, but their experience and competence tend to positively relate to company performance.

Our research was conducted in Vietnam, a country with notable differences in economic development, politics, laws, finance, society, and culture. Moving away from a centrally planned, bureaucratic, subsidy-based economy, Vietnam is progressively reforming, innovating, and establishing a market-oriented system while deeply integrating into the global economy. Thanks to these reforms and its large population, Vietnam has become one of the fastest-growing developing countries in the world. According to the Vietnamese government, the GDP growth rate for 2024 compared to 2023 is expected to be 7.09%, with the economy reaching approximately 476.3 billion USD, ranking 33rd globally. Vietnam is considered "a remarkable development success story," and "Vietnam now is one of the most dynamic emerging countries in the East Asia region" (The World Bank in Vietnam in 2025). This provides a compelling context for this research.

In Vietnam, Articles 137, 156, and 162 of the Enterprise Law specify that a joint-stock company has the right to organize its management and operations according to one of two models: (i)

General Meeting of Shareholders, Board of Directors (BOD), Board of Supervisors, and Director or General Director; (ii) General Meeting of Shareholders, BOD, and Director or General Director. The BOD is responsible for electing, dismissing, and removing the COB from among its members. The BOD appoints a member or hires another person as the CEO. The COB is responsible for developing programs and operational plans and supervising the implementation of decisions made by the BOD. The CEO manages the company's daily operations, oversees the BOD, and is accountable to the BOD and the law for fulfilling assigned responsibilities. Given this context, studying only the CEO's role while neglecting the COB's role may lead to inaccurate research findings and misunderstandings about the management practices of Vietnamese enterprises. Therefore, in this study, we incorporate an analysis of the gender and age characteristics of the COB and CEO to address the theoretical gap and provide practical results, assisting listed companies in Vietnam in developing more suitable and effective management policies.

In recent years, there has been a notable shift toward focusing on leadership within companies, especially those listed publicly. Investors and stakeholders are increasingly emphasizing leadership quality, highlighting how age and gender impact financial performance. This study aims to explore the relationship between these factors and help Vietnamese transport companies improve their management strategies. Using balanced panel data from 54 transport firms listed on the Vietnam stock exchanges from 2017 to 2023, the research measures financial performance through three indicators: ROA, ROE, and Tobin's Q. Various analytical steps are taken, including descriptive statistics, correlation analysis, multicollinearity testing, and the Hausman test to choose suitable models that address issues like heteroscedasticity, autocorrelation, and endogeneity, employing FGLS and SGMM.

The results show that the age of the Chairman (COBAGE) positively affects firm performance, while the age of the CEO has the opposite effect. Regarding gender, findings reveal that a female chairman positively impacts equity utilization efficiency and the firm's market value but reduces asset utilization efficiency. Conversely, a female CEO negatively impacts all three financial performance measures, especially return on equity (ROE). Our research contributes to existing literature in several ways: First, unlike most prior studies that focus only on the individual effects of CEOs or COBs on firm performance, we examine both. Second, while many studies assess gender diversity based on the proportion of female directors on the board, our research emphasizes the presence of individual female COBs or CEOs.

Third, many studies on leadership attributes and performance use ROA and ROE as metrics. Our study broadens this by including Tobin's Q, ROA, and ROE, combining profitability measures with market

valuation indicators. Fourth, this study enhances understanding of upper echelons theory (UET), behavioral finance, and resource-based theory by providing empirical evidence on how the gender and age profiles of COBs and CEOs relate to corporate financial performance. Fifth, the context of this research is unique, as it examines an emerging economy (Vietnam) that has transitioned from a centralized, bureaucratic, and subsidized economy, with a distinct political, economic, legal, social, and cultural environment.

Our research is motivated by the important role that the quality of corporate governance plays in the performance and sustainability of transportation companies. The personal traits of COBs and CEOs are a key part of this governance quality, directly affecting strategy, risk management, and resource efficiency. COBs and CEOs represent the company's image, and their leadership is vital for maintaining competitiveness and promoting sustainable growth. They are ultimately responsible for developing strategies to grow market share and profitability (Ali et al., 2022).

Another motivation comes from the crucial role of the Vietnamese transportation industry in the country's socioeconomic development. The Vietnamese Government has created the National Transport Development Strategy, recognizing transportation as a key part of the country's infrastructure that needs prioritized investment and development to grow quickly and sustainably, laying the foundation for socio-economic progress. The rapid growth of Vietnam's transport and logistics sector aims to position the country as a new manufacturing hub capable of competing with China. However, one of the biggest challenges faced by the Vietnamese transport and logistics industry today is the lack of management skills and professional qualifications.

Many managers lack essential business knowledge and experience, rarely update their skills, and do not adapt their leadership styles to current demands. This study aims to examine how the gender and age of corporate leaders influence financial performance.

The third motivation is the ongoing debate over the relationship between COB and CEO characteristics and financial performance. Some research indicates a positive relationship, while others find no correlation or a negative one. This study will help clarify this relationship within the Vietnamese transportation industry. Additionally, despite the numerous studies on how leadership traits impact business performance overall, there is limited research specifically focusing on COB characteristics, especially in Vietnam's transportation sector.

The findings from this research can offer valuable insights for transportation companies in choosing, training, and developing leadership teams based on age and gender to optimize management structures and improve operational efficiency. For investors, the results provide a basis for assessing risks and

investment opportunities in to promote sustainable growth in the transportation industry. Exploring the gender of COBs and CEOs can also contribute to discussions on gender equality in corporate governance, a global issue. Overall, this research has academic value and practical importance, supporting the sustainable development of the transport industry and the national economy.

Following the introduction, Section 2 reviews relevant theories and literature and formulates the research hypotheses. Section 3 describes the research design, including the data and variables used in the study. Section 4 presents the empirical findings and discusses their implications. Finally, Section 5 summarizes the study and highlights implications for management.

2. Literature review and development of research hypotheses

2.1. Leadership traits and business outcomes: Unresolved issues

The connection between leadership qualities and business success has been widely studied in corporate finance and strategic management. According to Upper Echelons Theory (UET), organizational success can partly be predicted by the visible traits of top managers, as these traits influence their thinking patterns, risk tolerance, and strategic decisions (Hambrick and Mason, 1984). Despite a strong theoretical basis, empirical findings are mixed and sometimes contradictory. For example, older managers are often believed to perform better because of their experience and judgment (Chandren et al., 2021; Lei et al., 2023; Nguyen et al., 2023), while other research suggests they may be too cautious and less receptive to new opportunities (Belenzon et al., 2019; Desir et al., 2024; Waelchli and Zeller, 2013).

Similarly, studies on gender diversity show both positive effects – such as improved supervision and governance (Ali et al., 2022; Espinosa-Méndez and Inostroza Correa, 2022; Peni, 2014; Suherman et al., 2023) – and negative or insignificant effects, often linked to risk aversion or specific contexts (Kayani et al., 2021; Rahman and Chen, 2023; Ujunwa, 2012).

A key limitation of earlier research is that it mainly focuses on the Chief Executive Officer (CEO), often overlooking the role of the Chairman of the Board (COB). This gap is particularly relevant in emerging markets, where governance structures tend to be more centralized, giving the board greater influence over strategic decisions. Failing to distinguish between these roles may obscure how leadership qualities truly influence business success.

2.2. Theoretical framework: Integrating UET, BFT, and RDT

To address this, this study develops an integrated theoretical model based on three main theories:

Upper Echelons Theory (UET), Behavioral Finance Theory (BFT), and Resource Dependence Theory (RDT). The core idea is that leadership impact depends on their specific role: (i) The Chairman of the Board (COB) primarily provides oversight, advice, and resource allocation; (ii) The Chief Executive Officer (CEO) mainly makes strategic decisions and manages daily operations.

Building on the different roles of COB and CEO, UET explains how leadership traits influence strategic choices (Hambrick and Mason, 1984), BFT examines behavioral biases affecting decision-making (Ackert and Deaves, 2010), and RDT describes how leaders facilitate access to external resources and legitimacy (Pfeffer and Salancik, 2006). For the COB, RDT primarily explains decision-making by emphasizing external connections, legitimacy, and resource access, supported by UET's focus on personal traits that shape oversight style and management strategies. For the CEO, UET mainly clarifies how traits directly influence strategic choices, with BFT offering insights into how biases like risk aversion or overconfidence affect investments and operations. Overall, while UET and BFT illustrate how individual traits shape decisions, RDT explains how leadership roles – especially the Chairman's role – add value through external connections. Combining these theories provides a comprehensive understanding of how the traits of Chairmen and CEOs differently impact business performance.

2.3. Leadership age and company performance

Previous research has produced mixed results regarding leadership age. Some studies suggest that older leaders have more experience, broader knowledge, and extensive networks, which can enhance decision-making and business outcomes (Ali et al., 2022; Naseem et al., 2020; Rahman and Chen, 2023). However, others indicate that they may exhibit greater conservatism, a tendency toward risk aversion, and decreased adaptability (Desir et al., 2024; Waelchli and Zeller, 2013).

According to the RDT, older Chairs of the Board (COBs) are more likely to enforce stricter oversight and financial discipline, thereby lowering agency costs. Additionally, RDT suggests that their accumulated networks and reputational capital improve access to external resources, enhancing business performance. These mechanisms imply a positive relationship between CEO age and company performance, especially in accounting-based metrics like ROA and ROE.

For CEOs, the mechanisms differ. Based on UET, age influences cognitive biases and strategic orientations, while BFT emphasizes an increased tendency among older executives to avoid risk. Older CEOs may avoid risky but profitable investments, potentially decreasing short-term returns (ROE). However, by fostering long-term stability and prestige, they can raise the company's market value (Tobin's Q). Therefore, the influence of CEO age on

performance measures is likely to be inconsistent. From this, hypothesis H₁ is proposed:

H_{1a}: The age of the Chairman of the Board positively affects the company's performance (ROA, ROE).

H_{1b}: The age of the CEO has a positive impact on market value (Tobin's Q) but might negatively influence return on equity (ROE) due to risk-avoidance tendencies.

2.4. Gender in leadership and company performance

The impact of leadership gender on company performance has been widely debated, yet empirical findings remain inconsistent. According to BFT, female leaders tend to be more cautious and less risk-taking than men (Ackert and Deaves, 2010). This caution can improve financial performance by reducing inefficient investment decisions but may also constrain growth opportunities.

From the UET perspective, gender diversity in leadership introduces different viewpoints into decision-making, which can improve governance quality (Hambrick and Mason, 1984). Simultaneously, RDT proposes that women in leadership can enhance a company's reputation and legitimacy in the eyes of investors, thereby increasing market value (Pfeffer and Salancik, 2006).

However, effects may vary between COB and CEO roles. A female Chairwoman might strengthen financial discipline and governance, positively influencing overall performance. Conversely, female CEOs could face more institutional barriers and social pressures, particularly in emerging economies, which might impact financial results. Hence, the study posits:

H_{2a}: Female Chairs of the Board positively influence market value (Tobin's Q) and ROE, although their effect on ROA may be uncertain or negative.

H_{2b}: Female CEOs may negatively influence financial performance (ROA, ROE), especially within the institutional context of emerging markets.

2.5. Research contributions and practical implications

By distinguishing between the roles of Chairman of the Board and CEO and incorporating multiple theoretical perspectives, this study advances the literature in three primary ways: (1) it reconciles conflicting empirical findings through a role-based analytical framework, (2) it clarifies the mechanisms through which leadership traits affect company performance, and (3) it offers new insights from emerging market contexts, where governance structures often differ substantially from those in developed economies.

This framework also facilitates more consistent interpretation of empirical results, especially when leadership traits impact various performance measures differently.

3. Research design

3.1. Research data

Research data were manually gathered from the websites of officially listed transportation companies in Vietnam on the HOSE (Ho Chi Minh Stock Exchange in 2025) and HNX (Hanoi Stock Exchange in 2025). After excluding ineligible companies – those listed after 2017 or with incomplete financial statements or annual reports – the study included only 54 of the 61 listed transportation firms. For macroeconomic factors, data were collected from the World Bank in 2024 and the General Statistics Office under the Ministry of Planning and Investment of Vietnam in 2024. The period from 2017 to 2023 was selected to reflect Vietnam's transportation industry's unique economic and institutional environment. This timeframe covers three distinct economic phases. First, from 2017 to 2019, the industry experienced strong growth and restructuring amid deep economic integration. Next, 2020 to 2021 marked an unprecedented shock due to the COVID-19 pandemic, severely disrupting transportation operations, cash flow, and financial performance. Finally, 2022 and 2023 represent the recovery and adaptation as businesses adjust their financial and management strategies to the new environment. In this context, the role of business leaders becomes especially important, as management decisions are made not only during normal conditions but also in times of high uncertainty. Therefore, selecting the period from 2017 to 2023 allows for a comprehensive assessment of how the characteristics of the

Chairman of the Board and CEO influence financial performance under different economic conditions – from stability to crisis and recovery. This enhances the relevance and practical value of the research, especially in emerging economies.

3.2. Research model

Based on background theory, research overview, and research hypotheses, we propose the following regression model:

$$FP_{it} = \beta_0 + \beta_j INDVAR_{it} + \beta_j CONVAR_{it} + \varepsilon_{it} \quad (1)$$

where, FP_{it} : reflects the financial performance of transportation companies, measured through ROA, ROE, and Tobin's Q. $INDVAR_{it}$: independent variables in the model. $CONVAR_{it}$: control variables in the model. β_0 : is a constant term. β_j ($j = 1, 12$): are correlation coefficients. ε : is an error.

To tackle endogeneity issues and dynamic relationships in panel data, the study utilises the System Generalized Method of Moments (SGMM) model. The financial performance of transport companies this year may be affected by previous years, so the lagged financial performance variable is incorporated into the model. Eq. 1 is reformulated as follows:

$$FP_{it} = \beta_0 + \beta_1 FP_{it-1} + \beta_2 FP_{it-2} + \beta_3 FP_{it-3} + \beta_j INDVAR_{it} + \beta_j CONVAR_{it} + \varepsilon_{it} \quad (2)$$

Table 1 offers a clear description of the dependent, independent, and control variables employed in this study.

Table 1: Description of variables

No.	Variable	Symbol	Definition	Expectation
Dependent variable				
1	Return on assets	ROA	Net income/total assets	n/a
2	Return on equity	ROE	Net income/total equity	n/a
3	Tobin's Q	TobinQ	(Equity market value + liabilities' market value)/total capital	n/a
Independent variable				
4	Age of the COB	COBAGE	COB's age for the current year	+
5	Age of the CEO	CEOAGE	CEO's age for the current year	+
6	COB gender	COBGEN	Dummy variable=1 if female, otherwise=0	+
7	CEO gender	CEOGEN	Dummy variable=1 if female, otherwise=0	+
Control variable				
8	Firm age	FAGE	Natural logarithm of the company's years founded	+
9	Firm size	SIZAS	Natural logarithm of total assets	+
10	Asset utilization efficiency	TAT	Total sales/total assets	+
11	Liquidity	CURR	Current assets/current liabilities	+
12	Financial leverage	LEVE	Total debt/total equity	-
13	Real interest rate	RIR	Real interest rate (%) obtained from the World Bank database	±
14	Annual inflation rate	INF	Annual inflation rate (%) obtained from the World Bank database	±
15	Annual GDP growth rate	GDP	Annual GDP growth rate (%) obtained from the World Bank database	+

n/a: Not applicable

4. Research results and discussion

4.1. Descriptive statistics

Table 2 presents the descriptive statistics results for the key characteristics of the variables used in the study, including the number of observations, mean values, standard deviations, and minimum and maximum values. The results indicate a significant difference in the financial performance of listed

transport companies in Vietnam. The mean value of ROA is 0.08, with a standard deviation of 0.111, ranging from -0.344 to 0.536. ROE has a lower average of 0.05, with a substantial standard deviation of 1.322, reflecting substantial fluctuations among companies, particularly since the lowest value is -25.331 and the highest is 1.015. Meanwhile, Tobin's Q – a proxy for market value relative to book value – averages at 1.455, higher than 1, indicating that most companies are valued above their net asset

value, ranging from 0.433 to 10.74. Regarding the personal characteristics of COBs and CEOs, the average age of the chair is approximately 52 years. In comparison, the average age of the CEO is 50 years, with standard deviations of 8.191 and 7.441, respectively. The proportion of women in COB and CEO roles is 12.2% and 6.1%, respectively, indicating a clear dominance of men in senior executive positions.

Regarding the control variables, the age of the firms is significantly different. The mean value of FAGE is 1.356, the minimum value is 0.477, and the maximum is 1.839. Asset size (SIZAS) has a mean value of 11.867, while total asset turnover (TAT) averages 0.991, indicating that the companies are relatively efficient in using their assets. Liquidity (CURR) has a mean of 3.985; however, the high standard deviation is 5.05, and the maximum value is 35.872, reflecting significant differences in liquidity among transport companies. Financial leverage (LEVE) has a mean of 1.421, but the standard deviation is notably substantial at 6.881, with a wide range of values (-6.485 to 119.291), indicating unevenness and possible exceptional cases in capital structure. Macro variables, including the real interest rate (RIR), inflation (INF), and GDP growth (GDP), show relatively low fluctuations at 0.048, 0.03, and 0.058, respectively, consistent with the stable state of the economy during the research period.

Table 2: Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ROA	378	0.08	0.111	-0.344	0.536
ROE	378	0.05	1.322	-25.331	1.015
TobinQ	375	1.455	1.248	0.433	10.74
COBAGE	378	52.053	8.191	31	74
CEOAGE	378	50	7.441	32	72
COBGEN	378	0.122	0.327	0	1
CEOGEN	378	0.061	0.239	0	1
FAGE	378	1.356	0.223	0.477	1.839
SIZAS	378	11.867	0.675	10.637	13.947
TAT	378	0.991	0.828	0.035	5.243
CURR	378	3.985	5.05	0.238	35.872
LEVE	378	1.421	6.881	-6.485	119.291
RIR	378	0.048	0.015	0.026	0.073
INF	378	0.03	0.005	0.018	0.035
GDP	378	0.058	0.021	0.026	0.081

4.2. Correlation analysis

Table 3 displays the correlation matrix between variables to evaluate the initial linear relationships. The results indicate that financial performance indicators tend to be positively correlated, with ROA positively and significantly correlated with ROE and Tobin's Q, reflecting consistency across performance measures. Conversely, ROA is negatively correlated with company age (FAGE) and financial leverage (LEVE), suggesting that older companies or those with high debt levels may experience lower performance. ROE also shows a strong inverse relationship with LEVE, implying that high leverage can reduce return on equity.

Regarding leadership variables, the age of the Chairman of the Board and the CEO are positively correlated but do not show a significant relationship with performance indicators, indicating that the

influence of leadership characteristics may not be evident at the univariate correlation level and should be tested using multivariate regression models. The control variables generally exhibit low to moderate correlations, consistent with theoretical expectations. At the macro level, the real interest rate, inflation, and GDP growth variables demonstrate relatively stable relationships, reflecting typical macroeconomic patterns. More importantly, the correlation coefficients among the independent variables are all low, suggesting that serious multicollinearity is unlikely. The Variance Inflation Factor (VIF) test results support this, with an average VIF of 1.35 and a maximum value of only 2.03, well below common warning thresholds. Therefore, multicollinearity is not a major concern for the model. Additionally, diagnostic tests revealed heteroskedasticity and autocorrelation in some OLS models, especially for ROE and Tobin's Q. This finding justifies the use of more robust estimation methods such as FGLS and System-GMM to ensure the reliability of empirical results.

4.3. Regression analysis results

After identifying flaws in the OLS model, the study proceeded to select an appropriate model between fixed effects (FEM) and random effects (REM) using the Hausman test. The results showed that FEM best fit ROA and ROE, while REM was suited for Tobin's Q. Further tests indicated that all three models exhibited heterogeneity, as shown by the Wald test and Breusch-Pagan test with a p-value of 0.0000. At the same time, the Wooldridge test revealed autocorrelation in both the ROE and Tobin's Q models. To address these issues, the FGLS method was applied. However, the Wu-Hausman test in the 2SLS model indicated endogeneity, requiring a more suitable estimation technique. Consequently, the study used System-GMM as the primary method to handle endogeneity, lag issues, and the dynamics of panel data simultaneously. The results from SGMM show that the number of instruments is fewer than the number of groups. The Arellano-Bond test confirms there is no second-order autocorrelation (AR(2)), and the Hansen test does not reject the hypothesis of instrument validity (p-value > 0.05). This confirms that the SGMM model is appropriate and that the estimates are reliable. Detailed results are presented in Table 4.

The SGMM estimation results (Table 4) form the primary basis for testing the research hypotheses, as this method effectively tackles endogenous efficiency, dynamism, and econometric issues in panel data. The results show that lagged variables of financial efficiency all play significant roles, indicating the model's dynamism. Specifically, L.ROA has a positive and statistically significant effect at the 1% level, demonstrating that ROA is sustainable over time. However, L2.ROA is negative and significant, implying that past profit effects may decline or reverse, while L3.ROA is only weakly significant, indicating a diminishing effect over time.

Table 3: Correlation matrix

Variables	ROA	ROE	TobinQ	COBAGE	CEOAGE	COBGEN	CEOGEN	FAGE	SIZAS	TAT	CURR	LEVE	RIR	INF	GDP
ROA	1.000														
ROE	0.238***	1.000													
TobinQ	0.433***	0.026	1.000												
COBAGE	0.010	0.026	-0.082	1.000											
CEOAGE	0.078	0.010	0.037	0.372***	1.000										
COBGEN	0.184***	0.034	0.192***	-0.143***	0.088*	1.000									
CEOGEN	-0.086*	0.008	-0.042	0.162***	-0.101**	0.142***	1.000								
FAGE	-0.177***	-0.123**	-0.165***	0.098*	0.214***	-0.050	-0.089*	1.000							
SIZAS	0.020	-0.134***	0.016	0.189***	0.009	0.078	0.121**	0.081	1.000						
TAT	0.068	0.053	-0.033	0.164***	0.108**	-0.149***	0.028	-0.033	-0.186***	1.000					
CURR	0.095*	0.035	0.063	-0.324***	-0.021	0.300***	-0.093*	-0.087*	-0.179***	-0.280***	1.000				
LEVE	-0.189***	-0.885***	-0.020	-0.032	-0.104**	-0.013	-0.012	0.137***	0.230***	0.094*	-0.114**	1.000			
RIR	-0.090*	-0.018	-0.036	0.052	0.047	0.021	-0.008	0.135***	0.027	-0.044	0.033	-0.002	1.000		
INF	0.104**	0.124**	-0.025	-0.042	0.018	-0.030	-0.050	-0.070	-0.007	0.012	-0.030	-0.095*	-	1.000	
GDP	0.144***	0.101**	-0.034	-0.016	0.024	-0.038	-0.045	-0.064	-0.002	0.051	-0.025	-0.070	0.193***	-	1.000
													0.542***	0.553***	

***: p < 0.01; **: p < 0.05; *: p < 0.1

For ROE, both L.ROE and L2.ROE are positive and significant, reinforcing evidence of the sustainability of equity efficiency, whereas L3.ROE is not significant, suggesting that this effect does not persist long-term. Regarding Tobin's Q, the lagged variables are positive and statistically significant, indicating that the firm's market value is more sustainable than its accounting indicators.

Regarding hypothesis H_{1a}, the results show that the age of the Chairman of the Board (COBAGE) has a positive and significant effect on ROA and ROE. This supports hypothesis H_{1a} and aligns with Upper Echelons Theory, which states that older leaders accumulate more experience and supervisory capabilities, thereby enhancing operational efficiency. From the perspective of Resource Dependence Theory, older chairmen often have broader networks, which provide better access to resources and improve accounting efficiency. This finding aligns with the results of [Chandren et al. \(2021\)](#) and [Lei et al. \(2023\)](#), who reported a positive relationship between chairman age and financial performance.

However, it conflicts with findings from [Kayani et al. \(2021\)](#), [Koufopoulos et al. \(2008\)](#), and [Waelchli and Zeller \(2013\)](#), who identified a negative relationship between chairman age and return on assets and equity. For Tobin's Q, the study found no significant relationship with COBAGE, suggesting that chairman age does not influence the firm's market value. This contrasts with [Peni \(2014\)](#), who found a negative relationship between the age of the chairman and market value.

Conversely, for H_{1b}, CEO age (CEOAGE) does not enhance accounting efficiency and even negatively impacts ROE, but positively influences Tobin's Q. This supports hypothesis H_{1b} and suggests a trade-off: older CEOs tend to be more cautious (Behavioral Finance Theory), limiting risky decisions to protect their reputation, which reduces short-term efficiency (ROE), but they are valued by the market for stability, thus increasing firm value (Tobin's Q). This indicates that older CEOs are associated with higher market value, although CEO age does not affect asset management and utilization efficiency. Additionally, the data show that CEOAGE decreases ROE, meaning companies with older CEOs tend to have lower returns on equity. These findings contradict the results of [Suherman et al. \(2023\)](#), who found a statistically significant positive impact of CEOAGE on both ROA and ROE, as well as a significant negative impact on Tobin's Q. They also differ from [Peni \(2014\)](#), who observed a positive relationship between CEO age and ROA.

Regarding gender factors, the results provide noteworthy insights. H_{2a} is partially supported: female CEOs positively affect ROE and Tobin's Q, but negatively affect ROA. This can be explained through a multidimensional perspective. According to Behavioral Finance Theory, female leaders tend to be more cautious, emphasizing risk management and optimizing financial structures, thereby improving equity efficiency (ROE) and market expectations

(Tobin's Q). Nonetheless, this caution may limit short-term profitable investments, resulting in lower ROA. This explains the inconsistent impact of female chairpersons across performance metrics. These findings support studies by [Mihail et al. \(2021\)](#) and [Peni \(2014\)](#), which identify higher financial performance in companies led by female chairpersons. However, they contrast with [Kayani et al. \(2021\)](#), who reported that companies with female chairpersons experienced reduced financial performance.

Meanwhile, H_{2b} was confirmed, indicating that female CEOs (CEOGEN) negatively affect ROA, ROE, and Tobin's Q. This reflects the institutional context of emerging markets, where structural barriers and biases can hinder the decision-making effectiveness of female CEOs. From an Upper Echelons Theory perspective, personal traits are only effective when the organizational environment supports them; in this case, the institutional setting may weaken the potential positive influence of female leadership at the executive level. Decisions mainly derive from financial structure choices rather than core business performance. This aligns with [Kaur and Singh \(2019\)](#), who found a negative impact of CEOGEN on ROA and ROE.

However, it contradicts the findings of [Espinosa-Méndez and Inostroza Correa \(2022\)](#), [Mukherjee and Sen \(2022\)](#), [Naseem et al. \(2020\)](#), and [Nguyen et al. \(2023\)](#), who reported a positive impact of CEOGEN on financial performance. [Rahman and Chen \(2023\)](#) did not find a link between CEO gender and company financial performance.

Table 4: Impact of Factors on Financial Performance (SGMM)

Variables	ROA	ROE	TobinQ
L.FP(*)	0.370***	0.049***	0.366***
	-0.0313	-0.0062	-0.0488
L2.FP(*)	-0.131***	0.054***	0.284***
	-0.041	-0.0095	-0.053
L3.FP(*)	0.116*	0.0744	0.231***
	-0.0662	-0.1055	-0.0377
COBAGE	0.002**	0.016***	-0.004
	-0.04	0	-0.47
CEOAGE	-0.001	-0.008***	0.010*
	-0.255	-0.001	-0.096
COBGEN	-0.027***	0.231***	0.359**
	-0.006	0	-0.026
CEOGEN	-0.015	-0.374***	-0.156
	-0.437	0	-0.18
FAGE	-0.060*	0.134**	-0.367*
	-0.069	-0.024	-0.058
SIZAS	0.070***	0.218***	0.301***
	0	0	0
TAT	0.044***	0.297***	-0.335***
	0	0	0
CURR	0.008***	0	-0.018***
	0	-0.841	-0.001
LEVE	-0.000***	-0.208***	-0.002***
	-0.001	0	0
RIR	-0.342	1.391*	-0.819
	-0.105	-0.098	-0.504
INF	1.420***	0.327	-11.906***
	-0.003	-0.813	0
GDP	0.634***	1.415**	-3.300***
	0	-0.01	-0.004
Constant	-0.898***	-3.415***	-1.693*
	0	0	-0.053

***: p < 0.01; **: p < 0.05; *: p < 0.1; L.FP(*): Lagged variables measuring financial performance related to ROA, ROE, and TobinQ

These findings clarify the differences between the roles of Chairman of the Board and CEO. The results show that the Chairman's characteristics mainly influence long-term supervisory and directional performance, while the CEO's traits directly impact operational decisions and short-term results. This supports the idea that these two roles serve different functions: the Chairman focuses on oversight, while the CEO manages the executive functions, leading to different effects on performance indicators.

Regarding control variables, their impacts on financial performance indicators vary. Company age (FAGE) negatively affects ROA and Tobin's Q but positively influences ROE, suggesting older firms may be less flexible in asset use and market adaptability, yet maintain stable equity efficiency. Company size (SIZAS) shows a positive and significant effect across all models, indicating economies of scale improve operational efficiency. Asset turnover (TAT) positively affects ROA and ROE but negatively impacts Tobin's Q, illustrating the trade-off between operational efficiency and market expectations. Current liquidity (CURR) enhances ROA but decreases Tobin's Q, implying that the market may perceive high liquidity as inefficient capital use. Financial leverage (LEVE) consistently has a negative effect on all three indicators, reflecting increased financial risk. For macroeconomic factors, the real interest rate (RIR) had no significant effect, while inflation (INF) positively affected ROE but negatively impacted Tobin's Q. GDP growth increased ROA and ROE but decreased Tobin's Q, indicating that economic growth supports performance but does not necessarily boost market valuation.

To test the robustness of the results, a comparison between Table 4 (showing the results from SGMM) and Table 5 (which contains the results of OLS, FEM, REM, and FGLS regressions for ROA, ROE, and Tobin's Q) shows consistent sign and significance across alternative estimation methods such as FGLS and FEM/REM, GMM in most cases, reinforcing the reliability of the findings. The Hansen and Arellano-Bond tests confirm that the model does not violate assumptions regarding instruments and autocorrelation, validating the SGMM estimates. Overall, the findings support several key hypotheses and reveal nonlinear effects and differences between leadership roles, emphasizing the importance of considering both individual traits and the institutional context when analyzing business performance.

5. Conclusion

This study explores how leadership demographic characteristics – specifically the age and gender of the Chairman of the Board (COB) and CEO – affect the financial performance of listed transportation companies in Vietnam from 2017 to 2023. Using the System-GMM method to address endogeneity in dynamic panel data, the study provides important

empirical evidence on how COB and CEO roles differently shape business performance.

The findings show that leadership traits do not have a uniform effect but rather a multi-dimensional influence, depending on the management role and performance measure. Specifically, the COB's age has a positive effect on internal operating performance (ROA, ROE), while the CEO's age increases market value (Tobin's Q) but also lowers ROE. Regarding gender, the study finds that female board chairs negatively impact ROA but positively influence ROE and Tobin's Q, whereas female CEOs tend to negatively affect all three performance indicators.

These results demonstrate that the connection between leadership traits and financial outcomes is complex and cannot be explained by simple linear assumptions. Instead, the findings highlight a nuanced interaction among leaders' individual traits, their managerial roles (supervisory versus executive), and the institutional context of emerging economies. By combining Upper Echelons Theory, Behavioral Finance Theory, and Resource Dependence Theory, the study sheds light on how leadership traits influence both internal performance and market expectations.

The results also suggest that senior leadership traits significantly impact business performance, implying that leadership appointments should be made strategically. In particular, the role of the Chairman of the Board goes beyond oversight to become a valuable resource; older or female chairpersons can contribute to long-term performance improvements and higher market valuation, though often at the expense of short-term gains. For CEOs, the findings emphasize balancing experience with risk tolerance and highlight the importance of the organizational environment in fostering effective leadership, especially for female CEOs.

From an investor's perspective, leadership traits can serve as additional indicators alongside traditional financial metrics, helping to better assess governance quality and strategic direction. For policymakers, the findings underscore the importance of improving corporate governance, increasing transparency, and promoting leadership diversity to enhance market performance.

This study has several limitations. First, because of data availability, the sample included only listed transportation firms, excluding many other companies in the transportation sector. As a result, the findings may not represent the entire industry. Second, gender was treated as a binary variable, which does not fully reflect the diversity of leadership. In addition, information on directors' experience and professional background was limited. Future studies should include a wider range of transportation firms, use more detailed measures of leadership diversity, and examine the effects of institutional settings, industry characteristics, and cross-country differences to assess the generalizability of the findings.

Table 5: Results of OLS, FEM, REM, and FGLS regressions for dependent variables ROA, ROE, and TobinQ

Variables	OLS	FEM	REM	FGLS
Panel A - Variable ROA				
COBAGE	0.001	0	0	0.001
	-0.483	-0.951	-0.726	-0.125
CEOAGE	0	0.001	0.001	0
	-0.593	-0.538	-0.356	-0.962
COBGEN	0.066***	0.014	0.027	0.025*
	0	-0.537	-0.183	-0.089
CEOGEN	-0.064***	-0.050*	-0.045*	-0.048***
	-0.007	-0.087	-0.093	-0.002
FAGE	-0.076***	-0.182*	-0.093*	-0.022
	-0.003	-0.074	-0.054	-0.1
SIZAS	0.017*	0.194***	0.044***	0.024***
	-0.051	0	-0.008	0
TAT	0.018**	0.081***	0.051***	0.015***
	-0.012	0	0	0
CURR	0.001	0.002*	0.002*	0.002***
	-0.253	-0.074	-0.075	-0.005
LEVE	-0.003***	-0.001	-0.001*	-0.004***
	0	-0.395	-0.078	0
RIR	-0.175	-0.107	-0.08	-0.209
	-0.694	-0.766	-0.8	-0.33
INF	0.435	0.805	0.643	0.023
	-0.717	-0.333	-0.432	-0.969
GDP	0.485	0.303	0.441*	0.049
	-0.178	-0.213	-0.071	-0.778
Constant	-0.131	-2.135***	-0.440**	-0.232***
	-0.269	0	-0.032	0
Panel B - Variable ROE				
COBAGE	0	0.006**	0.002	-0.002
	-0.972	-0.035	-0.412	-0.118
CEOAGE	-0.022***	0.002	-0.001	-0.005***
	0	-0.517	-0.829	0
COBGEN	0.273***	0.108*	0.120*	0.059**
	-0.004	-0.079	-0.068	-0.021
CEOGEN	-0.226*	-0.122	-0.116	-0.109***
	-0.073	-0.128	-0.179	-0.003
FAGE	0.179	-0.448	0.019	0.028
	-0.186	-0.108	-0.929	-0.586
SIZAS	0.217***	1.002***	0.486***	0.223***
	0	0	0	0
TAT	0.287***	0.035	0.096***	0.172***
	0	-0.317	-0.006	0
CURR	-0.007	0	-0.003	-0.004***
	-0.31	-0.953	-0.453	-0.004
LEVE	-0.181***	-0.210***	-0.209***	-0.203***
	0	0	0	0
RIR	0.011	-2.083**	-1.882*	-0.521
	-0.996	-0.035	-0.059	-0.141
INF	6.792	3.731	4.188*	1.787**
	-0.286	-0.101	-0.09	-0.012
GDP	0.988	-0.066	0.134	-0.013
	-0.604	-0.92	-0.855	-0.955
Constant	-1.925***	-11.367***	-5.682***	-2.187***
	-0.002	0	0	0
Panel C - Variable TobinQ				
COBAGE	-0.011	-0.004	-0.002	0.003
	-0.224	-0.723	-0.825	-0.49
CEOAGE	0.014	-0.027***	-0.020**	-0.004
	-0.153	-0.003	-0.017	-0.304
COBGEN	0.679***	-0.065	0.114	0.116
	-0.001	-0.782	-0.596	-0.206
CEOGEN	-0.391	-0.253	-0.264	-0.001
	-0.161	-0.407	-0.351	-0.99
FAGE	-1.013***	-0.273	-0.899	-0.045
	-0.001	-0.811	-0.122	-0.81
SIZAS	0.063	-0.559	-0.039	0.219***
	-0.544	-0.216	-0.845	0
TAT	-0.014	0.220*	0.123	0.065*
	-0.87	-0.096	-0.261	-0.055
CURR	-0.009	-0.025*	-0.016	0.003
	-0.555	-0.065	-0.199	-0.561
LEVE	-0.001	0.001	0	0
	-0.93	-0.879	-0.989	-0.909
RIR	-5.182	-3.981	-4.119	-3.306***
	-0.32	-0.293	-0.208	-0.005
INF	-2.678	-0.936	-1.602	-4.673**
	-0.849	-0.914	-0.848	-0.044
GDP	-4.125	-3.968	-4.019	-3.801***
	-0.327	-0.118	-0.106	0
Constant	2.528*	10.360**	4.688*	-0.93
	-0.069	-0.047	-0.053	-0.208

***: p < 0.01; **: p < 0.05; *: p < 0.1

List of abbreviations

AR(2) Second-order autocorrelation

BFT

BOD

CEO

Behavioral Finance Theory

Board of Directors

Chief Executive Officer

CEOAGE	Age of the Chief Executive Officer
CEOGEN	Chief Executive Officer gender
COB	Chairman of the Board
COBAGE	Age of the Chairman of the Board
COBGEN	Chairman of the Board gender
CURR	Liquidity (current assets/current liabilities)
FAGE	Firm age
FEM	Fixed effects model
FGLS	Feasible generalized least squares
GDP	Gross domestic product
GMM	Generalized method of moments
HNX	Hanoi Stock Exchange
HOSE	Ho Chi Minh Stock Exchange
INF	Annual inflation rate
L.FP(*)	First-order lagged financial performance variable
L2.FP(*)	Second-order lagged financial performance variable
L3.FP(*)	Third-order lagged financial performance variable
LEVE	Financial leverage
OLS	Ordinary least squares
RDT	Resource Dependence Theory
REM	Random effects model
RIR	Real interest rate
ROA	Return on assets
ROE	Return on equity
SGMM	System generalized method of moments
SIZAS	Firm size
TAT	Asset utilization efficiency
UET	Upper Echelons Theory
USD	United States dollar
VIF	Variance inflation factor

Compliance with ethical standards

Conflict of interest

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