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The Effects of Corporate Governance Mechanisms on Firm Performance: Empirical Evidence from Vietnam

Tu Anh PHAN[1], Long Hoang DUONG[2]

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Abstract

This paper investigated the relationship between corporate governance mechanisms and firm performance in Vietnam. Based on a dataset of 101 HOSE-listed manufacturing firms, the results showed that CEOs' knowledge capability, gender diversity, and board size are positively associated with firm performance, whereas firm age is negatively associated. These findings suggested that firms should consider enlarging the boardrooms, but to a certain extent to avoid an inverse-U-shaped decline of performance; furthermore, firms should promote women executives' presence in a boardroom for it brings greater cultural-diversity benefits and inhibits information asymmetry. Contrary, the aging process impedes firms' growth. It depreciates their values in terms of total assets, so managers must review their assets' net value after each working year to avoid such a hardship. However, the thesis constrains itself since it did not treat the TMTs' knowledge capability equally as the CEOs' and completely excluded their treatment. Besides, it did not regard the effect of external governance mechanisms such as the supply-demand relationship, customer behavior, market imperfections, and market concentration due to data unavailability. Based on the main findings, several suggestions are set forth for firms and managers to enhance performance and minimize a poor governance mechanism's adverse consequence.

Keywords: Knowledge Capability, Upper Echelons, Gender Diversity, Firm Performance

JEL Classification Code: M12, M14, G34, L25, L60

1. Introduction

The reform policies launched in Vietnam in 1986 known as Doi Moi, translated literally as "restoration," have brought profound changes to the country — rescuing it from the failures of central planning and self-isolation adopted after the unification of the country in 1975. Vietnam has gradually morphed from a strictly-closed territory to a more open place for world trade and business. Vietnam has obtained a better position in the international arena than in the past because of its trade openness and ease of business practice, making it one of the most important hubs for global business and cargo transition.

With that said, the country has now recognized the importance of firms and trades, for they have been considered as facilitators of economic wealth. Many studies by internal and external economists have focused on corporates' financial performance in a transition-economy situation. Vietnam's economy is categorized as a transition economy; such economies are moving from closed-market command structures to open-market capitalistic systems. Similarly, this paper aims to formalize the correlation between governance and financial performance, tell apart the financial difference between duality and non-duality and between in-line expertise and non-expertise, and improve upon the business governance literature. Prior empirical studies have been broadly using the international business literature and the industrial organization literature to discuss the critical importance of corporate governance mechanisms and firm performance. Many studies indicate correlations between chairman performance and his/her effect on firm overall performance. Although there are many firm-level operating mechanisms, they can be broadly classified into

[1]First Author and Corresponding Author. Chair, Department of International Business, College of Economics, Can Tho University, Vietnam [Postal Address: 3/2 Street, Campus 2, Ninh Kieu District, Can Tho City, Can Tho, 900000, Vietnam] Email: patu@ctu.edu.vn
[2]Researcher, College of Economics, Can Tho University, Vietnam. Email: hoanglong240898@gmail.com

two categories – internal and external corporate governance mechanisms (Gillan, 2006).

To quantify the effects of corporate governance mechanisms on firm performance, the study utilized the database published from a sample of 101 listed firms on the Ho Chi Minh Stock Exchange Market (HOSE) for the period of 10 years from 2010 to 2019. The panel-regression estimation approaches are well adopted alongside other econometric techniques to measure such effects of corporate governance mechanisms.

The remainder of the paper is organized into five sections. Section 2 describes the literature review. In Section 3, we set out a brief description of the methodology. Section 4 presents the empirical results. Finally, section 5 is a conclusion.

2. Literature Review

2.1. Firm Performance

For a long time, the validity of papers focusing on firm performance has been around in business literature. Scholars have regarded such a factor as one of the real-time measurement methodologies of how effectually firms are doing regarding their total assets or investor's equity. A wide range of studies ranging across countries, sectors, and fields on firm performance are presented with views that it is an excellent source of information about the firm's existing state of affairs for investors. Evidence is up with papers learning about firm performance in developed economies such as Taiwan (Lin, 2011), Malaysia (Ahmad et al., 2012), the United States (Koh et al., 2009; Way, 2002), Korea (Kim & Cho, 2020); in emerging countries such as Turkey (Ciftci et al., 2019), India (Sarkar & Sarkar, 2009; Bhatia & Srivastava, 2016), China (Wu & He, 2019), Bangladesh (Rahman et al., 2019) or even emerging markets (Gruber-Muecke & Hofer, 2015; Saini & Singhania, 2018; Karabag & Breggren, 2014; Wang & Shailer, 2015); papers on firm performance in various sectors such as small business sector (Suh et al., 2011; Storey, 1989; Way, 2002); manufacturing sector (Weill, 1992; Zhu & Kraemer, 2002; Ramaswamy, 2001; Shaukat et al., 2013); food sector (Mazzanti et al., 2006); engineering sector (Khan, 2012); financial services sector (Jo et al., 2015); and so forth. Therefore, we can say that studies related to firm performance are indispensable and presently contributing to the world literature to provide a generic view of firms' input allocation to total assets and investor equities.

Furthermore, there are currently many studies related to corporate governance mechanisms and firm performance concerning the effects of the former's on the latter. Started around firm's theory by Jensen and Meckling (1976), business literature has expanded on this research scope since corporate governance issues have received increasing attention (Beasley et al., 2000; Singh & Davidson III, 2003; Aljifri & Moustafa, 2007; Florackis, 2008; Hu et al., 2010; Song et al., 2010) have highlighted the views as well.

2.2. Agency Theory

Agency theory is a principle that is used to explain and resolve issues in the relationship between business principals and their agents. Most commonly, that relationship is the one between shareholders, as principals, and company executives, as agents. It is believed that since the Adam Smith era, problems on the principal-agent conflicts had been around for a long.

"The trade of a joint-stock company is always managed by a court of directors…. Such (joint-stock) companies, therefore, commonly draw to themselves much greater stocks than any private copartnery can boast of. . . . The directors of such companies, however, being the managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honor and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company."

Smith's (1776) writing implied a negative correlation would manifest when there is a conflict between decision-makers and investors**.** The principal-agent problem (also known as agency dilemma or the agency problem) occurs when one person or entity (the "agent"), can make decisions and/or take actions on behalf of, or that impact, another person or entity: the "principal" A dilemma exists in circumstances where agents are motivated to act in their own best interests, which are contrary to those of their principals, and is an example of moral hazard (Eisenhardt, 1985, 1989; Hölmstrom, 1979; Jensen & Meckling, 1976; Denis & McConnel, 2003). The agents have higher incentives to engage in financial risks but not bearing the full costs of adverse consequences Issues also arise when companies have an incentive to become increasingly deferential to management that has ownership stakes. As shareholders are dis-incentivized to intervene, there are fewer checks on management. Issues can also arise among different types of management. (Hölmstrom, 1979). When the hired is delegated with decision-making rights, they usually possess more excellent knowledge than the hiring (hirer) (Jensen & Meckling, 1976). However, in cases that the hired is not acting in the hiring's final interests, it implies that they

are manipulating the internal accounting system by taking advantage of the information asymmetry between them and their shareholders.

Therefore, the principals must conduct specific pecuniary and non-pecuniary actions and pay to oversee the working processes (called monitoring cost) to prevent the agents from exploiting firm values in the end. Then, the principals have to pay another cost to prevent the agents from committing business immoralities, categorized as the bonding expenditures and formally known as the executive compensation. It signifies that the higher the bonding expenditures, the lesser the agents' incentives to act aberrantly. Hence, monitoring costs and bonding costs are usually used for the same purpose, that is, to monitor unsanctioned activities by the agents and restrict them from harming the principals' interests in the long-term. The last-mentioned cost is a residual loss. Residual losses are the costs incurred from divergent principal and agent interests despite the use of monitoring and bonding. The difference in the principals' wealth when their interests are not honestly served due to the agents' divergent behaviors, which leads to decreases in firm value, *ceteris paribus*. Therefore, the residual loss is roughly the equivalent monetary representation of the difference in the principals' well-being due to the agents' divergence because of the principal-agent dilemma, and scholars have acknowledged it as a hidden cost, which is not recorded in the financial books.

CEO duality is not good for firm performance because it "signals the absence of decision management and decision control" (Fama & Jensen, 1983). Having a CEO chair the board of directors, whose aims is to evaluate the CEO's work, removes the meaning of firms having a board because the CEO will tend to promote his/her ideas when no one has the power to oppose his/her work and he/she can select executive members who will not challenge his/her decisions, and even position (Westphal & Zajac, 1995). When a person is simultaneously a firm's CEO and is also a Chairman of the board, remaining directors are not likely to have opposing ideas and objectives. The duality control allows the executive officer to promote his/her ideas without furthering the evaluation process, which reduced diversity effectiveness (Finkelstein & D'Aveni, 1994).

2.3. Upper-Echelons Theory

Hambrick and Mason (1984) posited that the organizational outcomes are determined by their strategic choices and firm performance levels, two of which are considered to be predicted by their top managers' characteristics. Before Hambrick and Mason (1984) scholars have advocated that large organizations and firms run by themselves, which means firms only reacted to the effects of outsiders, external factors (Pfeffer & Salancik, 2003), ecological factors (Hannan & Freeman, 1977, 1984), and techno-economic development (Harrigan, 1980; Porter, 1980; Hambrick et al., 1982), but not to the effects of insiders, which were their internal strategic people (Hambrick & Mason, 1984). Furthermore, Hambrick and Mason (1984) opposed that even when the insiders' characteristics were factored in, scholars such as Aguilar (1967), Mintzberg et al. (1976), Allen (1979), and Bourgeois III (1980) excluded the involvement of the decision-makers on firm strategic choices, which in turn lead to the changes in firm performance not being well reflected and thus containing biases in the results. Hambrick and Mason (1984) emphasized the strategic coalition between top managers and firm performance.

The upper echelons theory states that organizational outcomes are partially predicted by managerial background characteristics of the top-level management team. After Hambrick and Mason (1984), Waldman et al. (2004) integrated the charismatic leadership theory into the Upper-Echelons theory to better comprehend the CEOs' leadership role in American and Canadian firms. Their findings later suggested that the CEO characteristics such as the charismatic view and the intellectual capacity explained firm performance. Olson et al. (2006) documented varied results concerning the effects of Top Management Team (TMT) characteristics on firm performance. They examined the said relationship given its mediating role. Their findings indicated a positive relationship between functional diversity and firm performance, thus supporting Hambrick and Mason (1984).

Recently, scholars (Oppong, 2014; Hiebl, 2014; Lee et al., 2016; Neely Jr et al., 2020) have used the Upper-Echelons theory to analyze the relationship between the TMT demographic characteristics and firm performance in various problems. Therefore, the present writer proposed a conceptual framework with three hypotheses to capture the governance-performance relationship.

H1: *CEO duality is negatively associated with firm performance.*

H2: *CEO knowledge capability is positively associated with firm performance.*

H3: *Gender diversity is positively associated with firm performance.*

Hence, the conceptual model for estimation analysis took the formation as of follow:

$$Y_{(X)} = \alpha - (CEO)X_{1t} + (CAP)X_{2t} + (GD)X_{3t} + \vec{C} + \varepsilon_{it} \quad (1)$$

Where Y represents the dependent variable – firm performance, the value of which ranges from 0 (zero) to 1 (one),

$$Y_{(X)} = [0,1] = \{X \mid 0 \leq Y_{(X)} \leq 1\} \quad (2)$$

α represents the model intercept;

CEO, CAP, GD represent the independent regression coefficients;

X_{1t}, X_{2t}, X_{3t} represent observed values of the independent variables in the t^{th} year;

$\vec{C}$ is the vector of the model, representing all the control variables of the model;

ε_{it} indexes the model error.

3. Methodology

3.1. Data Collection

Hypotheses are tested on a longitudinal dataset spreading over the 2010–2019 period. The sample consists of *101* largest manufacturing firms publicly traded on the Ho Chi Minh Stock Exchange Market, one of the two Vietnamese primary stock exchange markets.

3.2. Data Measurement

Concerning the conceptual framework that the present writer has put forth, the measurement methodology with regards to the dependent, independent, and control variables are as follows:

3.3. Data Analysis

For the purpose of this study, longitudinal (or panel) data was used. Thus the present writer's main approach was using the Random-Effect Model (REM) and the Feasible Generalized Least Squares Model (FGLS), which was used to deal with the issues of heteroskedasticity and autocorrelation.

Furthermore, in determining whether REM or FEM is a better fit for the dataset, the Hausman specification test was applied in saying so (Hausman, 1978; Hair et al., 2016). After the specific models are chosen, the present writer proceeded into testing variables with the following patterns: first, the effects of all control variables on ROA and ROE; second, alongside the impact of control variables, each respective independent variable will be included throughout each test, e.g. the second regression analysis consists of the effect of control variables plus one independent variable, the third contains two independent variables, and the same applies for the next run of regression analysis.

4. Results and Discussion

4.1. Regression Results

To know if there are any multicollinearity and autocorrelation issues within the conceptual framework,

Table 1: Variable Measurement

Variables	Measurement	Source
Dependent variable		
FP	ROA	Ebaid (2009); Salim and Yadav (2012)
Independent variables		
CEO	A dummy variable (1: if the CEO chairs the board of directors, 0: otherwise).	Finkelstein and D'aveni (1994); Boyd (1995); Elsayed (2007, 2011)
CAP	A dummy variable (1: if the CEO holds their graduate degree in line with their current job, 0: otherwise).	Hambrick and Mason (1984); Hambrick (2007)
GD	The fraction of female executives over total executives.	Campbell and Minguez-Vera (2007); Dwyer et al. (2002)
Control variables		
Age	The difference between the year when the firm had been founded and the year of analysis.	Loderer and Waelchli (2010)
Size	The natural logarithm of total assets.	Serrasqueiro and Nunes (2008); Smith et al. (1989); Orser et al. (2000)
Board size	The total number of executive members of a boardroom.	Eisenberg et al. (1998); Elsayed (2007, 2011); Ghabayen et al. (2016)

Note: FP = firm performance, CEO = CEO duality, CAP = knowledge capability, Age = firm age, GD = gender diversity, Size = firm size.

Table 2: Descriptive Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
ROE	1,010	0.07	0.08	–0.64	0.78
CEO	1,010	0.32	0.47	0	1
CAP	1,010	0.41	0.48	0	1
GD	1,010	0.17	0.15	0	0.77
Age	1,010	10.24	4.15	0	25
Size	1,010	3,403,741	8,410,731	265.584	102,000,000
Board size	1,010	7.76	2.64	1	21

Table 3: Information Table (n = 1,010)

Variables	VIF	Mean	Std. Dev.	FP	CEO	CAP	GD	Age	Size	Board size
FP		0.07	0.08	1.00						
CEO	1.10	0.32	0.47	–0.03	1.00					
CAP	1.04	0.41	0.50	0.24***	–0.01	1.00				
GD	1.07	0.17	0.15	0.05*	0.20***	–0.002	1.00			
Age	1.06	10.24	4.15	–0.05*	–0.11***	–0.04	0.07**	1.00		
Size	1.20	13.98	1.64	0.06**	–0.07**	–0.18***	0.1***	0.09***	1.00	
Board size	1.24	7.76	2.64	0.14***	–0.18***	–0.12***	0.06**	0.20***	0.37***	1.00

Note: FP = firm performance, CEO = CEO duality status, CAP = knowledge capability, GD = gender diversity, Age = firm age, Size = firm size, Board size = Board size. *, **, *** signify significance level respectively at $p < 10\%$, $p < 5\%$, $p < 1\%$. The values in parentheses signify standard deviation values of the variables.

the present writer employed two popular methodologies, the Variance Inflation Factor (VIF) ratio, and correlation models. Details are specified in Table 2. Grewal et al. (2004) suggested that the conceptual framework will contain multicollinearity no matter how great the variable-choosing processes are. Multicollinearity occurs when independent variables in a regression model are correlated. This correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results. Therefore, when the multicollinearity score is over 0.8 (80%), it is severely extreme; when the score is between 0.6 to 0.8 (from 60% to 80%), multicollinearity is substantially extreme; and when the score is below 0.4 (40%), multicollinearity is acceptable. That is if the VIF value exceeding 4.0, or by tolerance less than 0.2 then there is a problem with multicollinearity (Grewal et al., 2004).

After regression analysis, the present writer adds each variable to test how firm the proposed conceptual framework will be, given changes in variables. Each addition saw an increase in R^2 and Log-likelihood values, which signifies a more robust model at the end to capture the business scenario.

4.2. Discussion

Firm age negatively associates with firm performance. Its coefficients yield satisfactory results (–0.002) and significant at $p < 1\%$. These findings align with the present writer's literature review on the age-performance effects.

All firms that had been sampled for the study are manufacturing firms. Practically, manufacturing firms have to buy factories, land, buildings, stationery and invest more in fixed assets compared with service companies (technology-development companies, consultancy companies, or agency companies). Manufacturers have higher fixed costs such as payment for land renting, offices and stationery costs, buildings used as factories, machinery, and so forth. This means higher costs of maintaining assets over time including fixed-assets, property assets, and land; manufacturing processes costs; hidden and overhead expenses; and other costs concerning long-term production of goods and

Table 4: Regression Results using the Random–Effects Model with ROA as the Dependent Variable

Variables	**Index**	**(1)**	**(2)**	**(3)**	**(4)**
Intercept		0.07 (0.04)*	0.08 (0.04)*	0.046 (0.04)	0.045 (0.04)
Independent variables	X_k				
CEO duality	X_1		–0.03 (0.04)	–0.05 (0.04)	–0.05 (0.04)
Knowledge capability	X_2			0.03 (0.007)***	0.03 (0.006)***
Gender diversity	X_3				0.02 (0.02)
Control variables	C_k				
Firm age	C_1	–0.002 (0.000)***	–0.002 (0.000)***	–0.002 (0.000)***	–0.002 (0.000)***
Firm size	C_2	0.001 (0.003)	0.0005 (0.003)	0.002 (0.003)	0.001 (0.003)
Board size	C_3	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)*	0.002 (0.001)*
CEO duality x Firm size	C_4	0.000 (0.000)	0.002 (0.003)	0.003 (0.003)	0.003 (0.003)
No. observations		1,010	1,010	1,010	1,010
R^2 within–entity		0.015	0.017	0.023	0.024
R^2 between–entity		0.017	0.014	0.140	0.145
R^2 overall		0.016	0.015	0.080	0.083
P–value		0.003	0.005	0.000	0.000

Note: *, **, *** signify the significance level at respectively $p < 10\%$, $p < 5\%$, and $p < 1\%$.

providing services. Therefore, aging will use up firms' depreciation life cycle over time. Hence, depreciation makes fixed-assets and properties for long-term usage more fragile over time, which results in a firms' lower responsiveness to the business environment.

Second, the depreciation process costs firms higher than just their assets getting worn off each year. They have to replace those assets after their life cycle comes to an end, which leads to the point that the higher the fixed-assets (as measured by the present value ratios) firms bear in the current operating periods, the higher the costs they have to pay to renew their production processes in the operational periods to come.

Third, firm performance is always associated with executive compensation; hence aging during post-IPO scenarios means an increase in directors' remuneration. That increase is justified because listed firms have to bear the costs of maintaining three independent entities, i.e. the board of directors, the executive team of officers, and the agency costs. Thus, it is associated with underperformance at older firms because they have to overpay the executives to maintain their higher needs and keep their incentives from committing immoralities. Next, board size has a positive relationship to performance. Its coefficients yield satisfactory results (0.002) and 0.005 with significance level at $p < 10\%$ and $p < 1\%$. The findings are reasonable given Vietnamese firms' context.

First, it requires large corporates' boardrooms to handle difficult tasks to gain economic surplus; hence, when the boardroom gets larger, ideas and solutions – before coming forth into implementation – are well evaluated and peer-reviewed by many copartners, which in turn inhibits the overpower of CEO duality in management and decision-making processes. Second, the more complex companies with diversified portfolios need a larger board to monitor and advise on operational actions. Therefore, firms that having complex businesses need more executive members in their boardroom since such a situation requires higher knowledge and advising requirements. Additionally, a larger boardroom is usually made of more outsiders who could give greater perspectives with the inclusion of externalities in a decision-making process, thus associating to a more diverse boardroom

Finally, a larger board will improve transparency as it is likely to reduce the information asymmetry problems, i.e. principal-agent dilemmas, between the board members. Moreover, increasing the number of board executives signifies higher independence of the corporate, which aims to remove the CEOs' more power at their disposal.

Given the context of these sampled firms, the present writer agreed on scholarly views that a larger board means higher performance, yet doubts that if firms keep on increasing the boardroom's size to improve performance, it may lead to poorer governance and thus lower performance. The present writer believes that the board size effect goes

Table 5: Regression Results Using the Feasible Generalized Least Squares Model with ROA as the Dependent Variable

Variables	Index	(1)	(2)	(3)	(4)
Intercept		0.05 (0.02)**	0.04 (0.02)*	–0.004 (0.02)	–0.003 (0.02)
Independent variables	X_k				
CEO duality	X_1		0.02 (0.04)	0.006 (0.04)	0.005 (0.04)
Knowledge capability	X_2			0.04 (0.005)***	0.03 (0.006)***
Gender diversity	X_3				0.02 (0.01)*
Control variables	C_k				
Firm age	C_1	–0.002 (0.000)***	–0.001 (0.000)***	–0.001 (0.000)***	–0.002 (0.000)***
Firm size	C_2	0.000 (0.001)	0.001 (0.002)	0.003 (0.002)	0.002 (0.002)
Board size	C_3	0.004 (0.001)***	0.004 (0.001)***	0.005 (0.001)***	0.005 (0.001)***
CEO duality x Firm size	C_4	–0.000 (0.000)	–0.001 (0.003)	–0.000 (0.003)	–0.000 (0.003)
No. observations		1,010	1,010	1,010	1,010
Log–likelihood		1153.976	1154.063	1190.201	1191.648
P–value		0.000	0.000	0.000	0.000

Note: *, **, *** signify the significance level at respectively $p < 10\%$, $p < 5\%$, and $p < 1\%$.

into an inverse U-shaped pattern. Beyond such a point, firm performance will change in an inverse direction, signifying a decreased performance pattern if board size keeps enlarging numerically. Empirical studies showed a negative correlation between a large boardroom and performance: Alam et al. (2020) argued that a large board size relates to lower performance due to problems of internal communication, monitoring, and information flow. However, due to the lack of measures and approaches, the present writer does not study such behavior, requiring further investigation and a multifaceted effort.

Next, regression results estimated the coefficients of knowledge capability at 0.03 (3%) with a significance level at $p < 1\%$. The empirical results are in line with Hambrick and Mason (1984). For example, we might expect that those trained in engineering major can handle industrial machinery of goods production; however, they are not good at maintaining business projects such as administering a group of people in a strategic business unit. For that rationale, we shall not accept a person with a formal educational background in engineering to work in the decision-making process. The observed firms produced supportive results where educational background and prior experience were positively associated with firm performance.

Then, the board size variable's regression analysis results produced a positive correlation with its coefficients at 0.02 and significance level at $p < 10\%$. Numerically, the effects of gender diversity influence firm performance to the extent of 2%. This signifies that if the corporate leaders want to enhance firm performance by 2%, gender diversity must be raised accordingly by one unit. These findings are in line with the literature that showed gender diversity in a boardroom enhances management, investment, and ultimately performance. It is argued that in countries with less advanced external mechanisms, the monitoring role borne by the boardroom is essential, and women's presence in a boardroom is a moderator on the intensity of such a relationship that generates an economic surplus.

Although preliminary anecdotal evidence supported that women have been unfairly treated in the Vietnamese working culture, the regression results show that women have a high percentage of leadership. Academically, the women's role in a boardroom is favored into two classifications: ethical and economic (Campbell & Minguez-Vera, 2008). The ethical perspectives deem it immoral for women to be excluded from a corporate boardroom. The views provide a supportive argument that firms shall promote gender diversity to generate higher economic gains and achieve more profound societal benefits.

5. Conclusion

The board characteristics affect firm positions in various aspects. First, managers' firm-specific expertise is statistically crucial for firm performance because it reflects the managers' knowledge and experience in handling transactional problems. Second, albeit not significant, CEO duality is deemed the essential information flow incorporates. Last,

the boardroom composition plays the role of diversifying the peer-evaluation process in ethical, economic, and psychological perspectives. These factors play the role of managing and facilitating an effective boardroom to gain marginal profits. On that basis, the present writer states that CEOs' knowledge capability and firm age have a significant influence on firm performance; (ii) knowledge and prior experience play key roles in managing and facilitating an effective boardroom management and corporate performance (iii) the aging process will lower overall performance due to fixed assets' depreciation, obsolete factories, and declined activities. Therefore, firms should always look for new opportunities during their younger working age and review their projects' value every year.

However, the study constrains itself with certain limitations. First, CEO duality was not significant, although prior studies have produced significant duality-performance association (relation). It is doubtful whether duality affects the manufacturing performance of Vietnamese firms. Further studies shall consider other sectors (other than manufacturing) in Vietnam, which should be built upon a multifaceted approach towards governance study. Second, a limitation is on the CEOs' knowledge capability measurement. The study did not treat the TMTs' knowledge capability the same as the CEOs', knowledge capability, whereas TMT usually assists the CEOs in business and investment decisions. Therefore, further studies shall center their research scope on the TMTs' knowledge capability instead of just the CEOs'. Third, the study did not regard the effects of externalities such as market concentration, customer behavior, satisfaction, etc, due to data availability, which impedes the paper's scope. Finally, the sample consists of manufacturing firms; so, it is suggested that the ROAA ratio shall be employed instead of the ROA ratio because the former can explicitly tell the effects of bulk-purchasing transactions of fixed assets on performance.

References

Ahmad, Z., Abdullah, N. M. H., & Roslan, S. (2012). Capital structure effect on firm's performance: Focusing on consumers and industrials sectors on Malaysian firms. *International Review of Business Research Papers*, *8*(5), 137–155. https://doi.org/10.1.1.458.8815

Alam, A., Abbas, s. F., & Hafeez, A. (2020). Board governance and bank's performance: Does size matter? *The Journal of Asian Finance, Economics, and Business*, *7*(11), 817–825. https://doi.org/10.13106/jafeb.2020.vol7.no11.817

Aljifri, K., & Moustafa, M. (2007). The impact of corporate governance mechanisms on the performance of UAE firms: an empirical analysis. *Journal of Economic and Administrative Sciences, 23*(2), 71–93. https://doi.org/10.1108/10264116200700008

Aguilar, F. J. (1967). *Scanning the business environment*. New York: Macmillan.

Allen, S. A. (1979). Understanding reorganizations of divisionalized companies. *Academy of Management Journal*, *22*(4), 641–671. https://doi.org/10.2307/255807

Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Lapides, P. D. (2000). Fraudulent financial reporting: Consideration of industry traits and corporate governance mechanisms. *Accounting Horizons*, *14*(4), 441–454. http://doi.org/10.2308/acch.2000.14.4.441

Bhatia, S., & Srivastava, A. (2016). Working capital management and firm performance in emerging economies: Evidence from India. *Management and Labour Studies*, *41*(2), 71–87. https://doi.org/10.1177/0258042X16658733

Bourgeois III, L. J. (1980). Performance and consensus. *Strategic Management Journal*, *1*(3), 227–248. https://doi.org/10.1002/smj.4250010304

Boyd, B. K. (1995). CEO duality and firm performance: A contingency model. *Strategic Management Journal*, *16*(4), 301–312. https://doi.org/10.1002/smj.4250160404

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, *83*(3), 435–451. https://doi.org/10.1007/s10551-007-9630

Ciftci, I., Tatoglu, E., Wood, G., Demirbag, M., & Zaim, S. (2019). Corporate governance and firm performance in emerging markets: Evidence from Turkey. *International Business Review*, *28*(1), 90–103. https://doi.org/10.1016/j.ibusrev.2018.08.004

Denis, D. K., & McConnell, J. J. (2003). International corporate governance. *Journal of financial and Quantitative Analysis*, 38(1), 1–36. https://doi.org/10.2307/4126762

Dwyer, S., Richard, O. C., & Chadwick, K. (2003). Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *Journal of Business Research*, *56*(12), 1009–1019. https://doi.org/10.1016/S0148-2963(01)00329-0

Ebaid, I. E. S. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *The Journal of Risk Finance, 10*(5), 477–487. https://doi.org/10.1108/15265940911001385

Eisenhardt, K. M. (1985). Control: Organizational and economic approaches. *Management Science*, *31*(2), 134–149. http://dx.doi.org/10.1287/mnsc.31.2.134

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*(1), 57–74. https://doi.org/10.2307/258191

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, *48*(1), 35–54. https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=1403&context=facpub

Elsayed, K. (2007). Does CEO duality really affect corporate performance? *Corporate governance: An International Review*, *15*(6), 1203–1214. https://doi.org/10.1111/j.1467-8683.2007.00641

Elsayed, K. (2011). Board size and corporate performance: The missing role of board leadership structure. *Journal of Management & Governance*, *15*(3), 415–446.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, *26*(2), 301–325. https://www.jstor.org/stable/725104

Finkelstein, S., & D'aveni, R. A. (1994). CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command. *Academy of Management Journal*, *37*(5), 1079–1108. https://doi.org/10.2307/256667

Florackis, C. (2008). Agency costs and corporate governance mechanisms: Evidence for UK firms. *International Journal of Managerial Finance, 4*(1), 37–59. https://doi.org/10.1108/17439130810837375.

Gillan, S. L. (2006). Recent developments in corporate governance: An overview. *Journal of Corporate Finance, 12*, 381–402. https://doi.org/10.1.1.538.3754

Ghabayen, M. A., Mohamad, N. R., & Ahmad, N. (2016). Board characteristics and corporate social responsibility disclosure in the Jordanian banks. *Corporate Board: Role, Duties & Composition*, *12*(1), 84–100. https://doi.org/10.22495/cbv12i1c1art2

Gruber-Muecke, T., & Hofer, K. M. (2015). Market orientation, entrepreneurial orientation, and performance in emerging markets. *International Journal of Emerging Markets, 10,* 560–571. http://dx.doi.org/10.1108/IJoEM-05-2013-0076

Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science*, *23*(4), 519–529. https://doi.org/10.1287/mksc.1040.0070

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. https://doi.org/10.2307/258434

Hambrick, D. C., MacMillan, I. C., & Day, D. L. (1982). Strategic attributes and performance in the BCG matrix: A PIMS-based analysis of industrial product businesses. *Academy of Management Journal*, *25*(3), 510–531. https://doi.org/10.2307/256077

Hambrick, D. C. (2007). Upper echelons theory: An update. *The Academy of Management Review, 32*(2), 333–343. https://doi.org/10.2307/20159303

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251–1271. https://doi.org/10.2307/1913827

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications.

Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology*, *82*(5), 929–964. https://ssrn.com/abstract=1505878

Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 149–164. https://doi.org/10.2307/2095567

Harrigan, K. R. (1980). Strategies for declining industries. *The Journal of Business Strategy*, *1*(2), 20. https://doi.org/10.1007/978-1-349-20317-8_16

Hiebl, M. R. (2014). Upper echelons theory in management accounting and control research. *Journal of Management Control*, *24*(3), 223–240. https://doi.org/10.1007/s00187-013-0183-1

Hu, H. W., Tam, O. K., & Tan, M. G. S. (2010). Internal governance mechanisms and firm performance in China. *Asia Pacific Journal of Management*, *27*(4), 727–749. https://doi.org/10.1007/s10490-009-9135-6

Hölmstrom, B. (1979). Moral hazard and observability. *The Bell Journal of Economics*, 74–91. https://doi.org/10.2307/3003320

Jo, H., Kim, H., & Park, K. (2015). Corporate environmental responsibility and firm performance in the financial services sector. *Journal of Business Ethics*, *131*(2), 257–284. https://doi.org/10.1007/s10551-014-2276-7

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. https://doi.org/10.1016/0304-405X(76)90026-X

Karabag, S. F., & Berggren, C. (2014). Antecedents of firm performance in emerging economies: Business groups, strategy, industry structure, and state support. *Journal of Business Research*, *67*(10), 2212–2223. https://doi.org/10.1016/j.jbusres.2014.01.004

Koh, Y., Lee, S., & Boo, S. (2009). Impact of brand recognition and brand reputation on firm performance: US-based multinational restaurant companies' perspective. *International Journal of Hospitality Management*, *28*(4), 620–630. https://doi.org/10.1016/j.ijhm.2009.04.002

Kim, M. S. (2016). The influence of customer satisfaction on customer loyalty and the moderating effect of gender. *The Journal of Distribution Science*, *14*(10), 73–79.

Kim, H. S., & Cho, K. S. (2020). The effects of contestability of control on Korean firm performance. *The Journal of Asian Finance, Economics, and Business*, *7*(11), 727–736. https://doi.org/10.1177/014920630202800604

Khan, A. G. (2012). The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting*, *2*(1), 245–262. http://www.macrothink.org/journal/index.php/ijafr/article/view/1825

Lee, W. S., Kim, I., & Moon, J. (2016). Determinants of restaurant internationalization: An upper echelons theory perspective. *International Journal of Contemporary Hospitality*

Management, 28(12), 2864–2887. https://doi.org/10.1108/IJCHM-02-2015-0048

Loderer, C. F., & Waelchli, U. (2010). *Firm age and performance* (MPRA Working Paper No 26450). Munich Personal RePEc Archive. https://mpra.ub.uni-muenchen.de/26450/1/MPRA_paper_26450.pdf

Lin, C. J. (2011). An examination of board and firm performance: Evidence from Taiwan. *International Journal of Business and Finance Research*, *5*(4), 17–34. http://www.theibfr2.com/RePEc/ibf/ijbfre/ijbfr-v5n4-2011/IJBFR-V5N4-2011-2.pdf

Mazzanti, M., Pini, P., & Tortia, E. (2006). Organizational innovations, human resources and firm performance: The Emilia-Romagna food sector. *The Journal of Socio-Economics*, *35*(1), 123–141. https://doi.org/10.1016/j.socec.2005.12.007

Mintzberg, H., Raisinghani, D., & Theoret, A. (1976). The structure of" unstructured" decision processes. *Administrative Science Quarterly*, 246–275. https://doi.org/10.2307/2392045

Neely Jr, B. H., Lovelace, J. B., Cowen, A. P., & Hiller, N. J. (2020). Metacritiques of upper echelons theory: Verdicts and recommendations for future research. *Journal of Management*, *46*(6), 1029–1062. https://doi.org/10.1177/0149206320908640

Olson, B. J., Parayitam, S., & Twigg, N. W. (2006). Mediating role of strategic choice between top management team diversity and firm performance: Upper echelons theory revisited. *Journal of Business & Management*, *12*(2), 111–126.

Oppong, S. (2014). Upper echelons theory revisited: The need for a change from causal description to causal explanation. *Management: Journal of Contemporary Management Issues*, *19*(2), 169–183. https://hrcak.srce.hr/133229

Orser, B. J., Hogarth-Scott, S., & Riding, A. L. (2000). Performance, firm size, and management problem-solving. *Journal of Small Business Management*, *38*(4), 42–58. https://www.researchgate.net/profile/Barbara_Orser/publication/274698692

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. California: Stanford University Press.

Porter, M. E. (1980). Industry structure and competitive strategy: Keys to profitability. *Financial Analysts Journal*, *36*(4), 30–41. https://doi.org/10.2469/faj.v36.n4.30

Rahman, M. M., Meah, M. R., & Chaudhory, N. U. (2019). The impact of audit characteristics on firm performance: An empirical study from an emerging economy. *The Journal of Asian Finance, Economics, and Business*, *6*(1), 59–69. https://doi.org/10.13106/jafeb.2019.vol6.no1.59

Ramaswamy, K. (2001). Organizational ownership, competitive intensity, and firm performance: An empirical study of the Indian manufacturing sector. *Strategic Management Journal*, *22*(10), 989–998. https://doi.org/10.1002/smj.204

Saini, N., & Singhania, M. (2018). Corporate governance, globalization and firm performance in emerging economies. *International Journal of Productivity and Performance Management, 67*(5), 1310–1333. https://doi.org/10.1108/IJPPM-04-2017-0091

Sarkar, J., & Sarkar, S. (2009). Multiple board appointments and firm performance in emerging economies: Evidence from India. *Pacific-Basin Finance Journal*, *17*(2), 271–293. https://doi.org/10.1016/j.pacfin.2008.02.002

Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia-Social and Behavioral Sciences*, *65*, 156–166. https://doi.org/10.1016/j.sbspro.2012.11.105

Serrasqueiro, Z. S., & Nunes, P. M. (2008). Performance and size: Empirical evidence from Portuguese SMEs. *Small Business Economics*, *31*(2), 195–217. https://doi.org/10.1007/s11187-007-9092-8

Storey, D. J. (1989). Firm performance and size: Explanations from the small firm sectors. *Small Business Economics*, *1*(3), 175–180. https://www.jstor.org/stable/40228512

Shaukat, S., Nawaz, M. S., & Naz, S. (2013). Effects of innovation types on firm performance: An empirical study on Pakistan's manufacturing sector. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *7*(2), 243–262. https://www.econstor.eu/bitstream/10419/188088/1/pjcss121.pdf

Suh, G. H., Hong, M. Y., Choi, C. R., & Suh, C. S. (2011). A study on the differences of performance in small businesses by gender. *The Journal of Distribution Science*, *9*(3), 65–71. https://doi.org/10.13106/eajbm.2017.vol7.no3.33

Singh, M., & Davidson III, W. N. (2003). Agency costs, ownership structure, and corporate governance mechanisms. *Journal of Banking & Finance*, *27*(5), 793–816. https://doi.org/10.1016/S0378-4266(01)00260-6

Song, C. J., Thomas, W. B., & Yi, H. (2010). Value relevance of FAS No. 157 fair value hierarchy information and the impact of corporate governance mechanisms. *The Accounting Review*, *85*(4), 1375–1410. https://doi.org/10.2308/accr.2010.85.4.1375

Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. New York: Oxford University Press.

Smith, K. G., Guthrie, J. P., & Chen, M. J. (1989). Strategy, size, and performance. *Organization Studies*, *10*(1), 63–81. https://doi.org/ 10.1177/017084068901000104

Wang, K., & Shailer, G. (2015). Ownership concentration and firm performance in emerging markets: A meta-analysis. *Journal of Economic Surveys*, *29*(2), 199–229. https://doi.org/10.1111/joes.12048

Way, S. A. (2002). High-performance work systems and intermediate indicators of firm performance within the US small business sector. *Journal of Management*, *28*(6), 765–785. https://doi.org/10.1177/014920630202800604

Waldman, D. A., Javidan, M., & Varella, P. (2004). Charismatic leadership at the strategic level: A new application of upper echelons theory. *The Leadership Quarterly*, *15*(3), 355–380. https://doi.org/10.1016/j.leaqua.2004.02.013

Weill, P. (1992). The relationship between investment in information technology and firm performance: A study of the valve manufacturing sector. *Information Systems Research*, *3*(4), 307–333. https://doi.org/10.1287/isre.3.4.307

Westphal, J. D., & Zajac, E. J. (1995). Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 60–83. https://doi.org/10.2307/2393700

Wu, R., & He, Y. (2019). A Study on the relationship between multinationality and performance: Evidence from China's Firms. *The Journal of Industrial Distribution & Business*, *10*(7), 7–16. https://doi.org/10.13106/ijidb.2019.vol10.no7.7

Zhu, K., & Kraemer, K. L. (2002). E-commerce metrics for net-enhanced organizations: Assessing the value of e-commerce to firm performance in the manufacturing sector. *Information Systems Research*, *13*(3), 275–295. https://doi.org/10.1287/isre.13.3.275.82