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The Relationship between Corporate Governance and Sustainability of Enterprises in Listed Companies on the Vietnamese Stock Market

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Abstract

This study explores the interplay between corporate governance and enterprise sustainability within Vietnam's top 100 companies from 2020 to 2022. Utilizing secondary data analysis, including board composition and organizational culture, meticulous verification ensures data accuracy. Descriptive statistical analysis and linear regression using STATA software reveal significant relationships between board characteristics and sustainable development disclosure, with factors such as board size, female and independent members, and education levels demonstrating statistical significance. However, the average board age shows no correlation. Findings emphasize the necessity of integrating sustainability into business strategy and tailoring governance structures accordingly. By illuminating these relationships, the study provides valuable insights for companies seeking to optimize governance for sustainable development and stakeholder value creation.

Keywords: Corporate governance, sustainability, board composition, interplay, independent members.

1. INTRODUCTION

In today's business world, sustainable development is not merely a trend but a key responsibility for enterprises. In the journey towards sustainability, an indispensable factor is the role of corporate governance. Corporate governance is not only about leading the enterprise but also about being significant decision-makers regarding the direction of sustainable development. According to Thanh (2023), the new point in the amended corporate governance principles is the addition of a chapter on sustainable development and enhancing resilience. It provides recommendations to support enterprises in better risk management while seizing opportunities for sustainable development amidst climate change and other challenges threatening sustainability. Corporate governance is the foundation for the sustainable development of enterprises, and it can be seen as an "international currency unit" to attract capital and responsible investors. Furthermore, corporate governance will increasingly be valued, especially in a context where the market demands responsible investors who focus not only on financial indicators but also consider the overall framework of ESG-integrated governance.

Corporate governance can only be substantive, accurate, and effective when the board of directors changes its mindset and clearly distinguishes between strategic storytelling, implementation, monitoring, reporting, and other related functions. When there is a correct understanding of corporate governance, the board of directors, executive committee, and stakeholders have a clear division of rights and responsibilities, thereby establishing two necessary conditions for sustainable development: transparency and accountability. Also, according to Thang (2010), Sustainable development has various definitions depending on the perspective and viewpoint of each organization, company, or government, based on their conditions, characteristics, and level of development. Many business managers agree with the famous statement by Friedman (1970), arguing that "there is one and only one social responsibility of business - to use its resources and engage in activities designed to increase its profits." However,

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there is an increasing number of shareholder-owned businesses that believe that their goals are not only to satisfy shareholder needs but also obligations to stakeholders and social responsibility.

Carroll (1999) suggests that sustainable development is not limited to the task of enhancing profits but extends to encompass "all economic, legal, ethical, and other areas that society expects from companies at any given time." Moreover, according to Matten and Moon (2004), sustainable development is a comprehensive concept, including various aspects such as business ethics, philanthropy, corporate citizenship, sustainability, and environmental responsibility. In summary, sustainable development is the commitment of enterprises to sustainable economic development through activities aimed at improving the quality of life for employees and their families, supporting communities, and making positive contributions to society, benefiting both the enterprise and the comprehensive development of society. According to Dan (2012), Economic and social development policies in Vietnam emphasize the importance of improving social living conditions. However, state budget funding remains limited. Therefore, enterprises should not only focus on business efficiency but also bear social responsibility, accompanying the government in promoting economic and social development and ensuring the welfare of the community. In this way, they not only contribute to the sustainable development of enterprises but also play a significant role in building a prosperous and progressive society.

There is no unified definition of the concept of "business sustainability" due to its complexity and multidimensionality (Kostyuk et al., 2016). Bansal (2005) proposed a concept of corporate sustainable development based on three principles: environmental integrity, economic prosperity, and social justice. Corporate sustainability is seen as a business approach to creating long-term value and managing risks from economic, environmental, and social perspectives. It also aims to ensure a balance between environmental protection, social justice, and sustainable development in corporate governance while assessing its impact on the market value of the enterprise and maintaining a leading position as well as a long-term vision. Many opinions encourage businesses to consider their responsibilities to stakeholders with the goal of integrating economic, environmental, and social concerns into corporate governance activities. This approach focuses on establishing, connecting, and maintaining relationships to bring benefits in terms of reputation for the business, as well as trust, loyalty from customers, cost savings, human resource management, innovation capability, and risk management. Additionally, Brammer (2006) believes that for multinational corporations (MNCs), the activities of MNCs in developing regions promote positive interaction between corporate social responsibility and reputation. However, geographical diversification does not always lead to improving the reputation of MNCs through corporate social responsibility effectiveness.

The board of directors is known to be an essential part of a company's structure, linking capital providers with capital users to create value. The role of the board of directors primarily focuses on financial efficiency as a measure of the company's performance. However, business leaders must understand the importance of maintaining a sustainable organization. Therefore, the board of directors should engage in balancing interests among stakeholders, in addition to profit generation. Business leaders need to grasp non-financial criteria for their activities, such as business management quality, governance structure, environmental protection, and social responsibility. To integrate the sustainability of the business, the authors need to see a particularly significant correlation between corporate governance and the sustainability of the business.

Therefore, the authors chose to study the topic to contribute our perspective on the relationship between the board of directors and the sustainability of the enterprise: Identifying the factors within the board of directors that impact the sustainability of businesses in listed companies on the Vietnamese stock market; estimating the impact of factors within the board of directors on the sustainability of businesses in listed companies on the Vietnamese stock market; proposing some solutions to enhance the sustainability of businesses in listed companies.

2. LITERATURE REVIEW

2.1. Theoretical Foundations of Sustainable Development

Research on sustainable development is a relatively new field in Vietnam, gaining attention in recent years as investors, banks, businesses, and governments have begun to recognize the importance of evaluating these factors for both business and society. Among these, the issue of the relationship between the board of directors and the sustainable development of enterprises is of particular concern to investors and stakeholders. The concept of sustainable development primarily emphasizes the efficient use of natural resources and ensuring a living environment for humans during the development process. Sustainable development is a transformation model aimed at optimizing economic and social benefits in the present without compromising potential future benefits (Goodian & Hecdue, 1988). To achieve this, the orientation and responsibility of the board of directors are crucial.

In recent years, several studies related to sustainable development have been conducted in Vietnam, including studies on the relationship between sustainable development and the future of businesses or the impact of governance factors on the sustainable development goals of enterprises. Alena et al. (2011) have also emphasized the importance of economic, social, and environmental pillars in the concept of sustainable development for efficient business operations. The research of Natalia and Juan (2013) has suggested that organizational directors can become a resource capable of creating sustainable competitive advantages. The future implementation of sustainable development by a business will be crucial, and to achieve this, businesses need specific strategies from their leaders. The studies of Eccles, Ioannis, and George (2012) have also emphasized the strong relationship between sustainability and the long-term viability of companies, demonstrating that companies pursuing sustainable development in their overall direction will achieve better financial results and outperform their competitors.

In some small and medium-sized enterprises, the perspective on sustainable development is seen as a cost rather than a long-term investment, which is quite common. Therefore, the vision and direction of the board of directors are crucial in influencing the sustainable development strategy of the business. Avery's studies (2015) highlight the importance of the strategy proposed by the board of directors and its results towards the sustainability of the business. According to the research, lack of knowledge about sustainability, short-term vision, and focus on other priorities such as profit make the board of directors lack specific long-term visions. In summary, although the concept of sustainable development in Vietnam is relatively new, it has received significant attention from countries worldwide and the government. It will be a crucial premise for businesses to navigate the long term and protect both customers and the environment within and outside the business.

2.2. Presentation of Sustainable Development Reports

Sustainable development can be studied at micro and macroeconomic levels. Addressing social and environmental issues at the macroeconomic level promotes the country's economic development. The publication of sustainable development information researched at the macroeconomic level in the article, namely companies engaging in addressing social and environmental issues, creates socially responsible business activities.

Environmental activities. The responsibility of companies to develop sustainably is often associated with environmental policies and environmental information disclosure. However, this narrow social perception of companies researching environmental responsibility The environmental-related factors may include: 1) environment (ecology), 2) socio-economics. Manufacturing companies often impact ecosystems, so disclosing environmental factors such as pollution control and participation in Special environmental programs are essential for relevant groups. According to Zhang and Han (2008), the development of businesses also depends on their socio-economic environment. According to the legitimacy theory, disclosing sustainable development reports can be analyzed based on how companies justify societal and public expectations. Experimental research on legitimacy theory attempts to identify the relationship between information disclosed by company expectations and the public. Deegan and Gordon (1996) explored the amount of environmental protection information disclosed in annual reports from 1980 to 1991 at Australian companies and identified that increasing disclosure of environmental protection information is positively related to the increase in related environmental groups. Positive correlations exist between the industry where the company operates, information disclosure, and the company's environmental information disclosure level. Thus, one of the factors encouraging the implementation of supplementary accounting work can be disclosed, which is the direction of the social impact of information on the value of a joint stock company. Deegan and Gordon (1996) identified that polluting companies disclose relatively more information about environmental pollution than non-polluting companies.

Companies try to create a positive image in the eyes of society by publishing more positive environmental information about their activities. Gray et al. (2003) investigated the level of social and environmental information disclosure in the annual reports of large companies considering company characteristics such as size, profit, and sector. Using qualitative content analysis, Smaliukiene (2007) investigated the forms of environmental pollution. Disclosure of responsibility is appropriate in countries with developed, developing, and emerging economies. Sliogeriene et al. (2009) explore the environmental factors influencing the value of energy companies. Thus, disclosing more information about environmental activities to relevant groups becomes more valuable. Human resources activities. Managing human resources at the company level means creating a motivational system, ensuring a favorable working environment, taking care of employee health, influencing the level of employment in the region, creating favorable conditions for education, and ensuring human rights at the macroeconomic level. Most scientists studying sustainable development in companies distinguish between human resource activities: Murthy (2008), Lanis & Waller (2009), Zhang & Han (2008), Kumpikaite (2008), Snieska & Simkunaite (2009).

Ruzevicius and Serafinas (2007) believe that companies have a responsibility to care for their employees from the outset. Snieska and Juscius (2008) argue that human resource development entails not only quality training but also employee involvement in decision-making, working conditions, and the creation of a value system. They investigate changes in accounting system management, including intellectual capital evaluation. Some authors separate areas of company human resource development and corporate involvement in ensuring human rights (Holder-Webb et al., 2009).

Community involvement. Corporate community engagement programs include participation in health care initiatives, support and/or charitable activities, supporting children's education, creating working conditions for people with disabilities, participation in vocational programs, and professional development. The theoretical basis for separating community engagement activities is stakeholder theory, which analyzes the relationship between the company and stakeholders interested in various aspects; the company's responsibility is emphasized, as well as the identification of key interest groups and the company's efforts towards those stakeholders.

Social capital theory emphasizes the importance of social relationships and their quality for a company's value addition. According to Macerinskiene and Vasiliauskaite (2007), only a corresponding social capital structure to the company's goals and situation can positively influence the company's activities. Through social capital accumulation, the quality of professional knowledge acquisition is improved (Ruzzier & Antoncic, 2007). Ubius and Alas (2009) investigate the relationship between socially responsible companies and organizational culture types in European e-commerce and electronic commerce, retail, and manufacturing companies. Research results show that organizational culture types determine aspects of overall social responsibility.

2.3. Theoretical Foundations of Financial Performance Efficiency of Enterprises

2.3.1. Concept of Financial Efficiency

The financial efficiency of a company is a measure of the availability and profitability of the company over a certain period. It is calculated by comparing total profits with total investments or total assets. Financial efficiency helps evaluate a company's economic and financial strength, enabling managers and investors to make informed investment decisions. The financial efficiency of a company is a concern for all investors, both internal and external to the company, as well as stakeholders. Indeed, through financial efficiency evaluation, investors can guide investments wisely and adjust capital sources appropriately.

Evaluating the financial efficiency of a company is necessary because it helps:
- Financial management: Evaluating financial efficiency helps companies manage finances efficiently and optimize capital sources.
- Investment: Evaluating financial efficiency helps investors make informed investment decisions and avoid unnecessary risks.
- Development direction: Evaluating financial efficiency helps companies identify long-term development directions and solve problems effectively.
- Building trust: Evaluating financial efficiency helps build trust between the company and investors, customers, and shareholders.

2.3.2 Evaluation and Measurement of Financial Efficiency

Some previous studies have used market measures (Vance 1975; Alexander and Buchholz 1978). Using market-based financial measures to assess financial efficiency helps avoid some accounting limitations (McGuire et al., 1986). Indicators such as Return On Sales (ROS), Return on Assets (ROA), Return on Equity (ROE), Tobin's Q, and Stock Price Differential (RET) are tools for measuring a company's financial efficiency in the study. These data can assess and measure the company's financial efficiency effectively, with less likelihood of data manipulation, and these measures are widely used to evaluate financial efficiency. In this study, the authors used ROA as the most common operational efficiency measurement indicator today. This is based on some previous studies.

Iftekhar et al. (2016) measure organizational risk as the standard deviation of ROA over 5 years, to capture an important aspect of income distribution regarding their changes and impacts on business risk. Shafat and Shabir (2020) use ROA as a representation of a company's operational efficiency (McGuire et al., 1988; Lopez et al., 2007). ROA is a measure to evaluate the operational efficiency of the company compared to its asset base, and it is commonly used to assess operational efficiency (Garg, 2016). In this study, the research team approached the issue by using a range of variables related to the composition and characteristics of the board of directors in the company. These factors include age, education level, work experience, and management skills.

Through in-depth analysis, the research team aims to better understand how these factors influence the sustainable development of the company. Sustainable development here is understood as the ability of the company to maintain and enhance its value in the long term, not only based on financial indicators but also including factors such as brand reputation, relationships with customers and employees, and the ability to adapt to changing business environments.

2.4. Strategies for Implementing Sustainable Development of Enterprises

Incorporating sustainability into business management practices is an urgent issue that researchers are concerned about. Gayle (2015), in a study based on a Boston/Sloan survey of 2,587 managers, executives, and experts, found programs. In particular, integrating sustainability into the core of management processes is considered a growing reality worldwide. Ingrid and Josie (2011) have outlined the challenges that managers face in implementing sustainability, arguing that aspects of sustainability need to be integrated into corporate strategy and carefully considered in the strategic decision-making process. Sabrina et al. (2016) also support this idea, emphasizing the necessity of integrating sustainability into strategic management, although there is still a lack of consensus on its application in practice.

On the contrary, Marc and Marie-Josée (2001) have provided a framework for analyzing the drivers of corporate sustainability but noted that this concept has not yet truly supported companies in sustainability implementation. To succeed, turning strategy into action is essential. Other authors, such as Alice et al. (2013), also emphasize the scarcity of literature and the need for empirical research in this field. Martina and Andrew (2013) believe that the field of corporate sustainability development still has much potential but requires a more comprehensive understanding of emerging scientific issues. Summarizing these studies, they have focused on evaluating the sustainability of enterprises from various aspects of governance. The highlight is the importance of integrating and implementing sustainable strategies in management practice. This emphasizes that to achieve sustainability, companies need not only strong, sustainable strategies but also the ability to deploy and execute them effectively in the real business environment.

2.5 The Role of the Board of Directors in Sustainable Development

Many authors have emphasized the significant role of the board of directors in promoting corporate sustainability and their influence on the successful business operations of the company. Avery's (2015) study placed the importance of the board's involvement and their outcomes in sustainability at the forefront. Only 22% of managers reported satisfaction with the sustainability measures implemented by the board of directors. According to this study, a lack of understanding of sustainability, short-term vision, and focus on other priorities make directors unable to fully commit to the sustainable path.

2.6 Research hypotheses

The authors propose a research model as illustrated (Figure 1).

H1: The number of board members is positively related to the company's disclosure of information on sustainable development.

The board of directors is the highest management body of a company and plays an important role in supervising activities, formulating strategies, and making important decisions in the company's operations. A board with an appropriate number of members will positively influence the management and strategic activities of the company. However, a leadership team with diverse experiences, knowledge, and multidisciplinary skills will help the company make informed, optimized, and effective decisions, contributing to the sustainability of the company.

H2: The average age of the board of directors is positively related to the company's disclosure of information on sustainable development.

Younger board members tend to have good knowledge and skills in technology innovation compared to older board members. This may help the company better adapt to the rapid changes in the market and the business environment, promoting the sustainability of the company. The combination of young leaders and experienced members will increase stability combined with innovative development in the board's decisions.

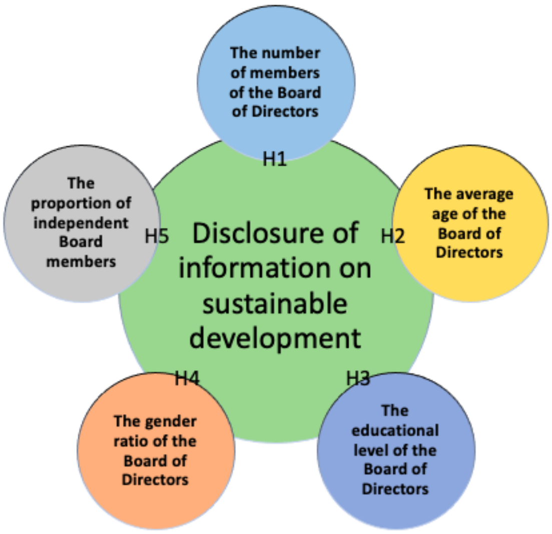

Figure 1. Research Model

H3: The proportion of female board members is positively related to the company's disclosure of information on sustainable development.

Gender diversity on the board can bring diversity in perspectives, allowing comprehensive and balanced decisions in corporate governance because female board members often have different viewpoints and perspectives compared to male board members. Gender diversity can help the company improve operational efficiency, reduce risks, and provide opinions that promote sustainability.

H4: The educational level of the board of directors is positively related to the company's disclosure of information on sustainable development.

Board members with higher educational levels usually have better knowledge and skills, as well as a deeper understanding of the business environment and the company's sustainability. This can help the company make informed and effective decisions to shape the company's strategy, contributing to achieving sustainable development goals.

H5: The proportion of independent board members is positively related to the company's disclosure of information on sustainable development.

The proportion of independent board members plays an important role in the sustainable development of the company. This independence ensures that decisions are made based on objectivity and global interests, helping to avoid conflicts of interest and build credibility. Independent board members also have responsibilities in monitoring performance, risk management, and promoting transparency in the company's activities. This contributes positively to creating a healthy management environment, supporting sustainable development, and enhancing trust from shareholders and the market.

Summary of Research Hypotheses

This study presents five hypotheses regarding the relationship between Board of Directors (Board) members and the disclosure of information on corporate sustainable development. These hypotheses focus on factors such as the number of board members, average age, proportion of female members, educational level, and independence of members. Each hypothesis reflects a different aspect of diversity in corporate governance and its impact on the sustainability of the enterprise. The first hypothesis addresses the number of board members, suggesting that a diverse and appropriate number of members can contribute to the decisions and strategies of the company, thereby promoting its sustainability. The second hypothesis related to the average age of the board assumes that the combination of experience and creativity among different generations of leadership can help the company adapt to the rapid changes in the business environment.

Next, the hypothesis regarding the proportion of female board members posits that gender diversity in the board can bring diverse perspectives and solutions, contributing to more comprehensive decisions and strategies and thus promoting the sustainability of the enterprise. The hypothesis about the educational level of board members assumes that deep knowledge of the business environment and the sustainability of the enterprise can help make effective decisions and promote sustainable development. Finally, the hypothesis about the independence of board members suggests that this independence can ensure decisions are made based on objectivity and global interests, thereby creating a healthy management environment and supporting the sustainable development of the enterprise. All of these hypotheses emphasize the role of diversity and harmonious integration in corporate governance, with the ultimate goal of promoting the sustainability and efficiency of the enterprise in an era of rapid change.

3. METHODOLOGY

The subject of the study focuses on the relationship between corporate governance, board structure, and the sustainability of enterprises, with the research subjects being the top 100 companies with the highest market capitalization on the Vietnamese stock exchange from 2020 to 2022. The data and information cited include components of the board of directors, board capacity, and organizational culture. Secondary data collection and analysis methods were used to analyze the composition of the boards of directors of the largest enterprise value companies on two Vietnam stock exchanges, aiming to explain the relationship through statistical analysis with collected quantitative data. This data can be collected from sources such as the company's annual reports and the official company website. After collecting the data, the authors proceed to check the completeness, accuracy, suitability, and reliability of the data and make corrections when errors occur.

Identifying necessary data: The first and most important step in the research process is identifying the necessary data for the study. This includes identifying variables and determining appropriate data collection methods.

Data collection: After completing the data identification step, the research needs to proceed with data collection to provide information for the study. The data collection method used is secondary documents.

Data processing: The data needs to be processed to become meaningful and usable. This step includes processing noisy data and inappropriate data, checking the integrity of previously collected data, and converting data into formats suitable for research tools. With the data collected on the top 100 companies with the largest enterprise value (EV) on two stock exchanges, Ho Chi Minh City Stock Exchange - HOSE and Hanoi Stock Exchange - HNX, the authors will use the following methods to study the relationship between the board of directors and the sustainable development of enterprises listed on the Vietnam stock market.

The first step is to use descriptive statistical analysis methods: With the support of STATA and Excel software, the data of variables in the model will be presented in the form of descriptive statistical tables. Each variable is described through contents such as variable name, sample size, and average number. From the descriptive statistical table, the authors will analyze the suitability of each variable in the model. To achieve research results, the author group uses STATA software to perform linear regression to test hypotheses about the relationship between corporate governance and the sustainability of enterprises and perform tests on model defects, thereby providing the most accurate data to evaluate this relationship in enterprises for sustainable development.

Given that the research data is in the form of panel data, the authors use three quantitative methods: Pooled OLS, FEM - Fixed Effects Model, and REM - Fixed Effects Model, then use testing methods to select the most appropriate quantitative method. The data source includes data tables and information about the top 100 companies with the largest enterprise value on the two Vietnam stock exchanges.

4. RESULTS

4.1. Descriptive Statistics

Descriptive statistics provide summarized information about the study data. For quantitative variables, the authors use the mean statistic to calculate analysis indices such as the mean value with the purpose of providing basic information related to the study sample.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ptbv	300	0.993	0.679	0	2
sltv	300	6.447	1.556	4	11
age	300	54.083	5.773	40	67
edu_undergad	300	3.383	1.360	0	7
edu_master	300	2.467	1.271	0	6
edu_phd	300	0.465	14.917	0	3
gender	300	0.272	0.144	0	1
tvdl	300	0.185	0.134	0	0.6

The research team used a secondary data collection method with a sample size of 300, with the following variable information. The dependent variable on sustainable development information ranges from 0 to 2, with an average value of 0.993, indicating that almost all companies are disclosing information on sustainable development. The average number of board members is 6.447, with the lowest at four and the highest at 11. The minimum value of the proportion of independent board members is 0, and the maximum is 0.6, with an average of 0.185. The average proportion of female board members is 0.272. Barako and Brown (2008) also noted a very low proportion of female board members in companies in many countries. The average age of board members ranges from 40 to 67, with an average of 54. The average education level for bachelor's and engineering degrees is 3.383, ranging from 0 to 7, while the master's degree ranges from 0 to 6, with an average of 2.467, and the doctoral degree ranges from 0 to 3, with an average of 0.465.

4.2. Testing for Multicollinearity

Multicollinearity is a statistical term that arises from a strong correlation between two or more independent variables in a linear regression model. In other words, one independent variable can be used to predict one or more other independent variables.

Table 2. Testing for Multicollinearity

Variable	VIF	1/VIF
sltv	3.69	0.271052
edu_master	3.45	0.290158
edu_undergrad	2.68	0.373227
edu_phd	1.19	0.838396
gender	1.08	0.930199
tvdl	1.07	0.931466
age	1.03	0.972786
Mean VIF	2.03	

There are two methods to detect multicollinearity. Here, the authors use the multicollinearity test using the variance inflation factor (VIF). The VIF is used to clearly determine the relationship between independent variables and the strength of this relationship.

From the table above, the authors can see the VIF index of the following three variables:
- sltv = 3.69
- edu_master = 3.45
- edu_undergad = 2.68

All these variables have VIF indices > 2, indicating that the regression model is experiencing multicollinearity. Furthermore, at the bottom of the table is the Mean VIF (Mean Variance Inflation Factor) = 2.03 > 2, thus concluding that multicollinearity is present in the model.

4.3 Correlation Coefficient Matrix

In the table above (Table 3), the correlation coefficients between the number of board members and the independent variables range from -0.1166 to 0.5945. The authors observe that only the education level of the board of directors with a master's degree has a moderate correlation with the number of board members, while the education level of bachelor's degree engineers shows a weak correlation. The variables of the proportion of independent board members and the proportion of female board members show no correlation with the number of board members.

Table 3. Correlation Coefficient Matrix

	ptbv	sltv	age	edu_undergrad	edu_master	edu_phd	gender	tvdl
ptbv	1							
sltv	0.2211	1						
age	-0.0169	0.0174	1					
edu_undergrad	0.0426	0.3582	0.0948	1				
edu_master	0.1199	0.5945	-0.1125	-0.3149	1			
edu_phd	0.0071	0.1377	0.0184	-0.1261	0.0505	1		
gender	-0.0711	-0.011	0.0127	0.0961	0.0241	0.1093	1	
tvdl	0.0239	-0.1166	-0.0608	-0.1945	-0.0093	0.169	-0.0042	1

Correlation coefficients of the independent variables < 0.8 indicate no multicollinearity with the variables during the regression model run.

4.4. Testing for Heteroscedasticity

Using the Breusch-Pagan test, with the information above, the authors observe a p-value = 0.1281 > 5%; thus, the variance is constant, or in other words, the variance is homogeneous. The authors accept the null hypothesis H0.

Table 4. Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ptbv

chi2(1) = 2.32
Prob > chi2 = 0.1281

Null Hypothesis H0: Constant variance.

4.5. Autocorrelation Test

Using the Wooldridge test, with the hypothesis: H0: No serial correlation (no first-order autocorrelation).

Table 5. Autocorrelation Test

Wooldridge test for autocorrelation in panel data
Ho: no first order autocorrelation
F(1, 99) = 353.969
Prob > F = 0.0000

With the Prob > F value = 0.0000 < 5% from the Wooldridge test as above, the authors reject the null hypothesis H0, meaning that the model exhibits an autocorrelation phenomenon. Therefore, the group uses FEM, REM to address the model's shortcomings.

4.6. Hausman Test

The results of the Hausman test are as follows: The Prob>chi2 value is the value the authors need to look at for evaluation, which is the Sig. value of the Hausman test. Specifically, here the Sig. value = 0.4270 > 0.05, so based on the rule Sig. > 5%, the model chosen is the random effects model (REM).

Table 6. Hausman Test

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 7.02
Prob>chi2 = 0.4270

4.7. Final Regression Model

Looking at the results from the table above (Table 7), the authors can see that there are 5 independent variables with statistical significance in the REM model, specifically:
The variable number of board members has a p-value = 0.001 < 5%.
The variable proportion of female members on the board of directors has a p-value = 0.049 < 5%.
The variable proportion of independent members on the board of directors has a p-value = 0.000 < 5%.
The variable Educational level of board members with bachelor's or engineer's degrees has a p-value = 0.021 < 5%.

Table 7. Final Regression Model

ptbv	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
sltv	0.153	0.048	3.2	**0.001**	0.059	0.246
age	-0.002	0.002	-0.98	0.328	-0.005	0.002
edu_undergrad	-0.108	0.047	-2.32	**0.021**	-0.199	-0.017
edu_master	-0.111	0.056	-1.97	**0.049**	-0.221	-0.001
edu_phd	-0.002	0.003	-0.62	0.536	-0.007	0.004
gender	-0.264	0.134	-1.97	**0.049**	-0.527	-0.001
tvdl	-0.251	0.019	-13.22	**0.000**	-0.288	-0.214
_cons	0.781	0.183	4.26	0.000	0.421	1.14

The variable Educational level of board members with master's degrees has a p-value = 0.049 < 5%.
With the independent variables having p-values below the significance level of 5%, the authors conclude that these independent variables have a statistically significant relationship with the dependent variable, meaning that they are statistically significant in explaining companies' disclosure of sustainable development information.

5. CONCLUSION

This study examines the influence of board characteristics on companies' disclosure of sustainable development information. The sample consists of 100 companies with the largest market capitalization on two stock exchanges, Ho Chi Minh City Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX), over 3 years from 2020 to 2022. The results show that the scale of the board of directors or the number of board members, the proportion of female members on the board, the proportion of independent board members, and the educational level of board members with bachelor's, engineer's, and master's degrees have a statistically significant relationship with the disclosure of sustainable development information by companies, while the educational level of board members with doctoral degrees is not statistically significant. Additionally, the study does not show a relationship between the disclosure of sustainable development information by companies and the average age of the board of directors.

Sustainability is one of the important factors in every business for decades. Sustainability can only be achieved by incorporating it into the business strategy. Therefore, it is necessary to conduct research to understand the role of each corporate governance factor in implementing sustainable development according to the specific characteristics of each corporate governance model. Thus, the governance structure can be adjusted to best meet the sustainability goals of companies. This study stops at providing information about the relationship between corporate governance and sustainability, thereby helping them understand how to optimize the governance system to promote sustainable development factors and create value for both the company and the community.

6. DISCUSSION

In today's market, where product and service diversity is increasing, attracting customer attention has become more difficult and requires creativity and innovation. Traditional marketing campaigns are no longer sufficient to make a strong impression. Instead, to attract the attention of customers and the community, companies are focusing on building a positive image by demonstrating commitments to social issues and sustainable development - one of the recent trends when customers choose products and services. Disclosing sustainable development reports is not only a task but also an indispensable part of business strategy. This not only helps build credibility for businesses but also brings many strategic benefits. Companies can increase competitiveness, strengthen reputation, and attract and retain employees, customers, partners, and the community by focusing on and seriously implementing social responsibilities. This can also positively impact relationships with major partners such as governments, media, suppliers, and the community in which companies operate.

Research on the relationship between age, gender, education, position, and field of expertise of the board of directors and the sustainable development of companies has been a particularly interesting topic recently. These factors significantly affect management processes and create sustainability for businesses. The relationship between the board of directors and the sustainable development of companies is an important but complex and multidimensional foundation. The board of directors not only plays a role in shaping strategies and managing resources but also in shaping the spirit and culture of the company. A unified and dynamic board of directors can create a positive work environment and promote innovation and creativity. They are visionary leaders, ready to deal with market fluctuations and make strategic decisions flexibly.

However, the influence of the board of directors is not limited to the internal scope of the company. They also need to ensure that the company operates sustainably in all aspects, including environmental, social, and economic. Integrating sustainability principles and practices into business decisions helps companies ensure sustainability and maintain long-term operations in the market. While researching the relationship between the board of directors and the sustainable development of companies, the research team delved deeper into understanding the complex and multidimensional impacts and correlations between these two factors. Through analysis, evaluation, and research, the authors have seen that the effectiveness of the board of directors is not only reflected in financial indicators but also measured through non-financial factors such as social responsibility, risk management, and environmental management.

Well-known companies with efficient and socially responsible boards of directors often receive attention and trust from investors, the community, and stakeholders. This not only helps companies create value for society but also directly contributes to their own sustainable development. In summary, the close relationship between the board of directors and sustainable development is an inseparable factor in shaping and promoting the success of businesses. Unity, motivation, and vision of the board of directors are the foundation for businesses to rise and develop in today's fiercely competitive era.

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