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The Mediating Role of ESG Practices in the Relationship between Board Characteristics and Firm Performance: An Empirical Study at Vietnamese Listed Enterprises

Thi Minh Oanh Truong, Vu Lan Tuong Dang, Ha Le Hoang, Hoang Nga Luong, Thi Phuong Mai Nguyen*

Foreign Trade University, Vietnam

Abstract

This paper aims to explore the mediating role of environmental, social, and governance (ESG) practices in the relationship between board characteristics and firm performance. The research employed a quantitative approach and utilized data from Vietnamese-listed companies having the best sustainability development index from 2018 to 2023. The study used the PLS-SEM model with SmartPLS 4.0 software to analyze data. The findings indicate that board characteristics have a negative impact on both environmental aspect and social aspects, but there is no statistical evidence to show their impact on governance. Moreover, the social aspect itself has a negative effect on firm performance. Regarding indirect impact, this research provides empirical evidence to prove the mediating role of social practice in the relationship between board characteristics and firm performance. These findings contribute to the understanding of the role of ESG practices in the context of Vietnamese businesses and provide valuable insights for policymakers, corporate leaders, and stakeholders who aim to enhance the performance and sustainability of companies by integrating ESG.

Keywords: ESG practices, board characteristics, firm performance, Vietnamese-listed enterprises

1. INTRODUCTION

Recently, there has been a significant increase in awareness of sustainable value creation among all business stakeholders, who are eager to act more responsibly in accordance with a set of environmental, social, and governance (ESG) standards. The studies of Kruse and Lundbergh (2010) and Kocmanová and Imberová (2012) demonstrated the necessity of integrating ESG information into a company's strategy since financial figures could not present a complete picture of a company's position and performance. Since then, numerous studies have evaluated the impact of ESG practices on firm performance with mixed results. Junius et al. (2020) found no significant effect of ESG practices on firm performance in developing ASEAN countries, contrasting with the positive findings in developed regions. Similarly, Cek and Eyupoglu (2020) noted significant influences from the social and governance aspects of ESG on economic performance but not from the environmental dimension. In ASEAN countries, it is unclear whether or not the impact of ESG disclosures on firm performance is negative (Lubis and Rokhim, 2021 & Fernando et al., 2022). On the other side, Nareswari et al. (2023) showed a negative impact of ESG scores on financial performance in Indonesia.

To integrate ESG into a company's strategy, the role of the board of directors is crucial. Considering board characteristics, previous research has consistently shown positive correlations with firm performance. Pucheta-Martínez and Gallego-Álvarez (2019) demonstrated that board size, independence, and the presence of female members positively affect firm performance. Also, in 2019, Al-Matari found that board size, non-executive

*Corresponding author. Tel.: +84-983860428
E-mail: maintp@ftu.edu.vn

members, and board members' general and accounting experience positively influence performance, ignoring the fact that frequent board meetings had a negative relationship. However, few studies have delved into how the characteristics of the board influence ESG practices and, in turn, how these practices impact firm performance. Most existing research has concentrated on the direct effects of either board characteristics or ESG practices on performance without examining the intermediary role that ESG might play in this relationship. This oversight raises an essential question: How do board attributes shape ESG practices, and subsequently, how do these ESG practices affect overall firm performance? Understanding this dynamic interplay is crucial for developing comprehensive strategies that leverage board governance and ESG initiatives to enhance sustainable business outcomes.

To address this question, this study aims to explore the mediating role of ESG practices in the relationship between board characteristics and firm performance, placed in the specific context of Vietnam. However, the results obtained are not consistent, nor do they completely overwhelm any results stated in previous studies, suggesting that further experimental evidence is required to confirm a unified conclusion.

2. LITERATURE REVIEW

2.1. ESG Practices

The ESG principle, including Environment, Social, and Governance factors (EBA, 2020), was first introduced by American economist Howard Bowen in 1953 under the term CSR (Corporate Social Responsibility). There were many studies that have discussed and demonstrated the ESG's impacts on economic results with varying findings of positive correlation (Jayachandran, Kalaignanam & Eilert, 2013; Flammer, Hong & Minor, 2019), negative correlation (Manchiraju and Rajgopal, 2017; Chen et al., 2018), non-linear relation (Barnett and Salomon, 2012; Zhao and Murrell, 2016; Barnett and Salomon, 2006) and indirect relationship (Hull and Rothenberg, 2008; Hawn and Ioannou, 2016; Surroca et al., 2020). These different consequences could result from diverse approaches to measuring ESG performance (Li, Wang, Sueyoshi & Wang, 2021).

Key performance indicators (KPIs) of ESG are the basis for calculating the ESG scores and measuring the business objectives of sustainability. These KPIs are mainly developed by international organizations such as Sustainability Reporting Guidelines 3.1 GRI, Guidance on Corporate Responsibility Indicators, Integrated Reporting IIRC, and IFAC... The study has adopted and modified the existing ESG scoring indicators from previous studies. The base was created by the ESG ratings, GRI, Sustainability Asset Management Group (SAM), Ethical Investment Research Services (EIRIS), and the Sustainable Investment Research Institute (SIRIS), which was used in studies by Balatbat, Siew, and Carmichael (2012); Galbreath (2013); Humphrey (2011); Ortas et al. (2015). Most of the indicators we selected are from the GRI due to their compatibility and suitability with the reporting indicators of Vietnamese enterprises.

2.2. Board Characteristics

The board of directors is responsible for both overseeing the work of managers and acting in the utmost interests of the company's shareholders and stakeholders (Ben-Amar & McIlkenny, 2015). The characteristics of the board include size, independence, diligence, diversity (age, gender, nationality, expertise, educational and functional background), and committee structure (Anderson et al., 2004). Aifuwa & Embele (2019) highlighted that board characteristics serve as an internal corporate governance mechanism focusing on onboard features. Akeju & Babatunde (2017) emphasized that such characteristics enhance the quality of financial reporting. D'onza & Lamboglia (2014) noted that board characteristics help detect and correct financial statement fraud. These characteristics include the presence of a Chairman and CEO who are shareholders, the existence of an audit committee, and the number of audit committee meetings. Fakile & E Adigbole (2019) defined board characteristics as features of corporate boards responsible for overall management. Board independence, crucial for effective oversight, is measured by the ratio of executive to non-executive members (Fama & Jensen, 1983a, 1983b; Chahine & Safieddine, 2011). The frequency of board meetings enhances board effectiveness by providing essential information to members (Nuscheler et al., 2019).

2.3. Firm Performance

Numerous definitions of firm performance can be found in the literature. Rai et al. (2006) define firm performance as "the degree to which a focal firm has superior performance relative to its competition." Despite varying definitions, the majority of studies assess firm performance as a multidimensional concept that includes both financial and non-financial elements. For instance, Wamba et al. (2017) evaluated firm performance from two angles: financial and market performance.

Additionally, prior studies evaluate firm performance through two distinct constructs: market performance and operational performance (Gupta and George, 2016; Gupta et al., 2018). According to the literature, market performance assesses a commercial organization's actual outcomes, such as market share and penetration into new markets, while operational performance gauges an organization's efficiency, including metrics like profits and return on investment (Aziz et al., 2023; Liu et al., 2020).

Venkatraman and Ramanujam (1986) suggest that operational performance can be considered a precursor to financial performance, influencing the impact of resources. Griffin and Mahon (1997) identified that the most commonly used measures are firm size, ROE, and ROA. Although ROA is the most frequently employed accounting metric, Velte (2017) highlights the importance of using market-based accounting metrics to proxy financial performance, utilizing Tobin's Q in his research. Other researchers, including Atan et al. (2018) and Dalal and Thaker (2019), also use these two variables in their studies. In addition, Debt to Equity is also used to measure the level of debt usage in its financial structure (Bouteska, Gupta, Boden, B& Abedin, 2024; Caragliu and Landoni, 2024), indicates the ability to capitalize on investment opportunities and the associated level of financial risk in terms of paying interest and principal on funding sources. ESG practices also have long term and non-financial effects on the firm performance; the study focuses on the market performance measured item (total sales and sales growth) to evaluate the competitiveness of the company in the market (Kandemir., Yaprak & Cavusgil, 2006; Gunday, Ulusoy, Kilic & Alpkan, L. (2011).

2.4. Theoretical Framework

The theory of agency (Fama & Jensen, 1983) and stakeholder theory (Freeman, 2010) posit that the effectiveness of a Board of Directors is crucial for executing management agreements. Research in these frameworks explores board effectiveness through dimensions such as size, structure, and composition. Agency theory focuses on the principal-agent relationship between shareholders and the board, emphasizing board characteristics like competence, independence, and size as determinants of their ability to implement agreements and safeguard shareholder interests. In contrast, stakeholder theory expands board oversight beyond shareholder interests to include stakeholders such as employees and the community, highlighting the board's role in balancing diverse stakeholder interests.

Strategic theories like resource dependency theory (Selznick, 1948) and cognitive theory view board members as active agents in value creation. Resource dependency theory underscores the critical role of resources in achieving strategic goals and sustainable development. Boards mitigate resource access risks through their skills and relationships, ensuring stability through cooperation agreements. Cognitive theory emphasizes the diverse knowledge and perspectives of board members, enabling strategic versatility and innovative approaches.

These theoretical frameworks underscore how board characteristics influence organizational performance. Recent studies extend these insights by applying theories such as the Upper Echelons Theory (UET), which explores how board characteristics like gender and ethnicity reflect cognitive diversity. This study utilizes cognitive theory, stakeholder theory, and UET to analyze how executive board characteristics impact the financial performance of Vietnamese companies.

2.5. Hypothesis development

Relationship between Board Characteristics and ESG Practices

The outcomes of the company substantially depend on the board characteristics (García-Sánchez, Martínez-Ferrero & García-Meca, 2018) through a set of strategic policies and directive and control activities. A suitable board characteristics would enhance the effectiveness, efficiency, and economy of the company through timely and utilized actions. Earlier studies demonstrated BC such as board size (Fama & Jensen, 1983a; Keenan, 2004; Suttipun and Bomlai, 2019), board diversity (Pucheta & Gallego, 2020; José and Begoña 2019), board independence (Ahmed, Hossain & Adams, 2006), number of international members (Bertrand, Betschinger & Moschieri, 2021, Jennifer A.N. Andoh et al., (2023), CEO's ideology and personality (Gupta, Nadkarni & Mariam, 2019; Tang, Qian, Chen & Shen, 2015),... have direct impact on the ESG practices and disclosure. According to agency theory, independent directors enhance the effectiveness of board oversight by providing more objective assessments of management performance. This happens because these directors are less involved in the company's day-to-day operations, making them less reliant on the control exerted by the Chief Executive Officer (CEO) (Jizi, 2017). The impact of diversity within the BoD is not always straightforward, as it comes with

its own advantages and disadvantages. Analytically and in terms of information processing, a diverse BoD brings broader and deeper expertise, typically yielding better outcomes compared to less diverse boards. Research by C. José García Martín and Begoña Herrero (2019) has broadened the understanding of how board characteristics influence ESG practices in the environmental aspect, affirming a positive link between gender diversity and the presence of a corporate social responsibility committee with ESG practices. Also, legitimacy theory suggests a positive relationship between the frequency of board meetings and ESG performance. This was also agreed by Jizi, Salama Dixon & Sterling (2014), Jizi (2017). Furthermore, Jennifer A.N. Andoh and associates (2023) examine the proportion of foreign board members in corporate governance, revealing a positive and significant relationship with corporate performance for non-financial and banking sector companies listed on stock exchanges. These studies have indicated a clear impact of the BC on ESG practices but no consistent conclusion. Thus, based on the theories and analyses from previous studies, we proposed the following hypotheses to be tested further:
Hypothesis (H1): Board characteristics have a direct impact on ESG practices, which is further broken down into:
(H1a): Board characteristics have a direct impact on environmental practices.
(H1b): Board characteristics have a direct impact on social practices.
(H1c): Board characteristics have a direct impact on governance practices.

Relationship between ESG Practices and Firm Performance
Stakeholder theory identifies positive connections between environmental and social factors and financial performance (Bătae et al., 2021). Incorporating ESG disclosure into the strategy can enhance values and revenue by drawing more attention from clients and investors (Zahid et al., 2022). This was also agreed by several scholars, such as Cek & Eyuboglu (2020), Boulhaga et al. (2023), and Carnini Pulino et al. (2022), which were both conducted in developed and developing countries ranging individual pillar and total ESG scores. However, studies such as those have assessed the impact of ESG practices and have found no significant effect on corporate operational performance or market value (Junius et al., 2020; Fernando et al., 2022), the environmental one (Cek & Eyupoglu, 2020).

Ruan and Liu (2021) observed a similar finding, with ESG activities significantly negatively impacting corporate performance, based on listed companies in the A-share markets of Shanghai and Shenzhen, China. This negative relationship is believed to persist due to high-cost pressures and capital market conditions, suggesting that high initial costs inevitably reduce corporate performance. Lubis and Rokhim (2021) and Ninditya Nareswari and colleagues (2023) also indicated a negative impact of ESG disclosures on corporate performance for the same reason.

The deviation in results is the basis for the relations and requires further empirical studies. Based on the theories and analyses, the following hypotheses are formulated:
(H2a): Environmental practices have a direct impact on firm performance.
(H2b): Social practices have a direct impact on firm performance.
(H2c): Governance practices have a direct impact on firm performance.

Relationship between Board Characteristics and Firm Performance

The Upper Echelons Theory (UET) (Hambrick et al., 1984) provides a theoretical basis to study the effects of board members' cognitive diversity on organizational outcomes, such as financial and non-financial performance, using gender diversity as a proxy. Research by Pucheta-Martínez and Gallego-Álvarez (2019) has investigated how board characteristics affect corporate performance and have indicated that certain characteristics of the Board, such as its size, independence, and the presence of a female member, all have a positive relationship with corporate performance. The same conclusions were also raised by Al-Matari (2019), but the number of board meetings has negative results and no linear relation of professional certifications of seniors board. In addition, stakeholders theory posits that addressing the needs of various stakeholders enhances a company's success and financial performance (Freeman, 1984; Friedman & Miles, 2002). Larger boards with diverse expertise and further discussion in AGM are supposed to be able to resolve the stakeholders' interest in various aspects and expectations, as mentioned in resource independence theory (Pfeffer & Salancik, 1978). Multiple elements in BC have been demonstrated to have a positive impact (Pucheta-Martínez & Gallego-Álvarez, 2020; Bathula, 2008) on the FP but also a negative impact (Jermias & Gani, 2014) and no correlation as well (Johl, Kaur & Cooper, 2015). This study aims to confirm the correlations with another empirical sample in Vietnam. Based on the theories and analyses, the following hypothesis is established:
(H3): Board characteristics have a direct impact on firm performance.

Mediating Role of the ESG Practice in Relation between Board Characteristics and Firm Performance

The previous discussion has shown existing studies indicating the direct impact of Board Characteristics on Firm Performance, and these have varying results of findings (O'Connell & Cramer, 2010; Borlea, Achim & Mare, 2017; Pucheta-Martínez & Gallego-Álvarez 2019; Al-Matari, 2012; Andoh, Abugri & Anarfo, 2022; Abubakar and colleagues, 2023). Findings from these studies have not mentioned the impact of crucial mediators between BC and FP. The agency theory and stakeholder theory discussed previously have indicated the roles of boards toward making benefits for a range of agents: shareholders, partners, suppliers, and socials. The roles could be presented in forms of engagement and agreement with the stakeholders, which establish the general reputation brand value in the global market and thus result in positive changes in FP (Russo and Fouts, 1997; Shen et al., 2019). Institutional theory advances a similar narrative of improvement in firms' FP through environmental commitments. Firms' ongoing commitment to ESG practices significantly reduces costs in the long term (Di Tommaso et al. (2020), Sassen et al. (2016), Lee et al. (2009)). As mentioned, BOD has the role of improving firm performance by establishing policies and overseeing practices. However, influential stakeholders often demand that firms disclose their environmental, social, and governance (ESG) information to inform their investment decisions (Chouaibi et al., 2021).

Additionally, it has been confirmed that ESG Performance reduces firms' risk-taking behavior and lowers their financing costs (Di Tommaso and Thornton, 2020; Oikonomou et al., 2014). Some recent studies have investigated the mediating roles of ESG/CSR in the relation between BC and FP with separate one mediator in ESG (Environment/ Social/ Governance) (Uyar, Kilic, Koseoglu, Kuzey & Karaman, 2020; Kim & Meivitawanli, (2022; Akhter & Hassan, 2024). The limitations of these studies are not focusing on the interrelationship between distinct factors of Environment, Social, and Governance. The above discussion has led us to infer that firms with better BOD would help improve ESG Performance, which would lead to the enhancement of Firm Performance. With these reasons and the shortage of empirical studies investigating the mutual effect of ESG Performance mediating BC to FP, we proposed the following hypothesis:
(H4a): Environmental practices mediate the relationship between board characteristics and firm performance.
(H4b): Social practices mediate the relationship between board characteristics and firm performance.
(H4c): Governance practices mediate the relationship between board characteristics and firm performance.
(H4d): ESG Practices as a whole mediate the relationship between board characteristics and firm performance.

3. RESEARCH METHOD

3.1. Research model and measurement

Research model
Based on the research hypotheses above, the research model is proposed as follows where BC is the abbreviation of board characteristics, E is environmental practices, S is social practices, G is governance practices, and FP is firm performance.

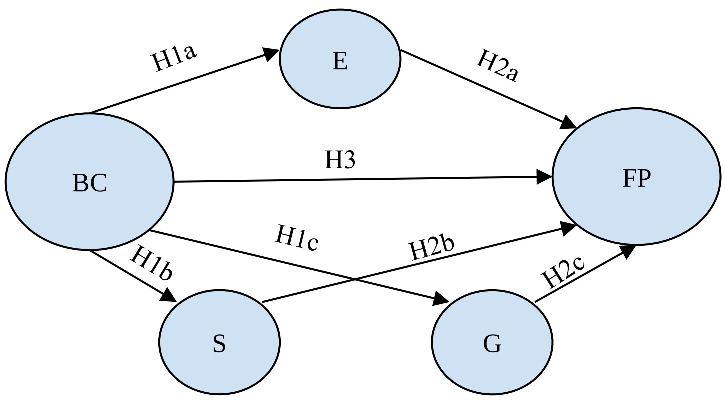

Figure 1: Research model and proposed hypotheses

Measurement
The independent variable - board characteristics (BC) includes Board size (BZ), Gender diversity (Male), Board independence (BI), and Annual general meeting (AGM). The dependent variable - Firm performance (FP), is measured by both financial and non-financial scales, as shown in the table below:

Table 1: Variable measures

Variable	Code	Indicator	Measurement
Board Characteristics (BC)	BZ	Board size	Number of BoD members
	Male	Gender diversity	Males/Total members
	BI	Board independence	NED/ Total members
	AGM	Frequency of Annual general meeting (AGM)	Number of AGM
Firm Performance (FP)	FP1	Return on Assets (ROA)	Profit before tax/Total assets
	FP2	Debt/Equity	Total Liabilities/ Total Equity
	FP3	Total Sales	ln(Average Sales)
	FP4	Sales growth	% Revenue difference between two accounting periods

ESG practice measures were adopted from the Sustainability Reporting Guidelines (GRI) and then adjusted for each dimension. Recognizing the significance of sustainability, the Vietnam Ministry of Finance released Circular No. 96/2020/TT-BTC on November 16, 2020, outlining the standards and instructions for ESG information disclosure on the stock market for publicly traded firms in Vietnam. Under the guidance of the State Securities Committee (SSC), they are required to disclose ESG information such as greenhouse gas emissions, raw material management, water, and energy consumption, compliance with environmental protection laws, employee-related policies, behaviors toward the local community, and reports related to green capital market activities. We have already chosen the most suitable indicators for Vietnamese companies according to the regulations and requirements of the Government and the State Securities Commission of Vietnam. The modified index consists of 22 indicators, with 8, 9, and 5 items of environmental, social, and governance practice, respectively. The disclosure index for environmental, social, and governance aspects will be scored based on the occurrence or absence of the reported indicators, with “0” for non-disclosure and “1” for disclosure.

Table 2: Mediator variable’s measures

Variable	Code	Indicator
Environmental practices	EN11	Total annual energy consumption
	EN12	The total consumption of renewable energy
	EN21	The annual mass flow of materials
	EN22	The proportion of the recycled materials
	EN31	The total annual production of waste
	EN32	Total annual production of hazardous waste
	EN4	The total annual consumption of water
	EN5	The total annual emission of greenhouse gasses
Social practices	S1	The number of accidents at work
	S2	Total number and the rate of staff turnover
	S3	Expenditure on education and training
	S4	Working relations
	S5	Occupational illnesses, number of deaths
	S6	Occupational illnesses, number of deaths
	PR3	Forced and compulsory labor
	HRA1	Freedom of association and collective bargaining
	HRA2	Discrimination
Governance practices	G13	Remuneration
	G16	Ethical codex
	G21	Frequency of stakeholder involvement
	G22	Existence of involvement mechanisms of the interested groups
	G23	Ways of answers for the feedback from stakeholders

3.2. Data collection and Sampling

Data was collected from the reports of Vietnamese-listed enterprises which have the highest scores on the Vietnam Sustainability Index (VNSI). Choosing enterprises from the VNSI ensures the research sample's representativeness and diversity, accurately reflecting the nature and development trends of businesses incorporating ESG into their strategies. As ESG disclosure is not mandatory in Vietnam, we had to collect data from different reports, including audited financial reports, annual reports, management reports, and prospectuses from 2018 to 2023. These reports provide comprehensive information on business activities, management practices, financial performance, and ESG-related practices. In total, 189 observations were qualified for further analysis.

3.3. Data Analysis Method

We established a PLS-SEM structural model to test the proposed hypotheses. This method is suitable for studies with small sample sizes using higher-order structures (Hair et al., 2017). Data was analyzed using the SmartPLS 4.0 software following measurement model evaluation, structural model evaluation, and hypothesis testing stages (Hair et al., 2017).

To validate the measurement model, we followed an approach that included (i) Bootstrap testing of outer weights with p-values < 0.05 and (ii) PLS-SEM algorithm analysis with outer loadings > 0.5%. Variables that do not fulfill these criteria are removed, and the procedure is repeated until all of the remaining variables fit the specifications. The Variance Inflation Factor (VIF) is used to determine collinearity between independent variables. Hair et al. (2011) found that a VIF > 5 shows collinearity difficulties; hence, variables with the greatest VIF should be removed sequentially until a VIF < 5 is attained.

To evaluate the structural model and multi-group analysis, we use standardized route coefficients to establish the direction and importance of direct and indirect effects. A positive route coefficient (+) denotes a positive influence, whereas a negative path coefficient (-) implies a negative impact. Path coefficients with p-values < 0.05 show statistically significant results. Adjusted R-squared and f-squared values are used to determine the degree of the impacts; larger values indicate a stronger influence.

4. RESULTS AND DISCUSSION

4.1. Measurement Model Evaluation

Its outer weights need to be evaluated to assess the contribution and relevance of a causal indicator. The outer weights result from a multiple regression with the latent construct as the dependent variable and the causal indicators as independent variables. The outer weights are standardized and can be compared; higher outer weights indicate a better contribution to the latent construct.

Bootstrap testing was conducted with 5000 subsamples and a significance threshold (sig.) of 0.05 to choose the indicators with p-values of outer weights less than 0.05. Indicators with a p-value of outer weights greater than 0.05 but having outer loading greater than 0.5 were also accepted. After this process, only 10 out of 22 original indicators were kept in the final model, including AGM, Male, EN11, EN31, EN5, FP2, G21, G22, S3, and S6. All variables satisfied the criteria and were analyzed as relationships within the structural model.

Table 3: The outer loadings results

	Outer loadings
AGM → BC	0.824
EN11 → E per	0.742
EN31 → E per	0.855
EN5 → E per	0.927
FP2 → FP	1
G21 → G per	-0.689
G22 → G per	-0.656
Male → BC	0.844
S3 → S per	0.865
S6 → S per	0.825

The item collinearity is determined by evaluating the outer VIF. All outer VIF values range from 1 to 1.952, which are less than 5, ensuring that the model has no collinearity issues that could lead to large biases (Hair et al., 2011).

Table 4: The outer VIF results

	VIF
AGM	1.181
EN11	1.662
EN31	1.952
EN5	1.866
FP2	1.000
G21	1.009
G22	1.009
Male	1.181
S3	1.225
S6	1.225

4.2. Structural model evaluation

The PLS algorithm findings reveal that all inner VIFs for each pair of independent variables are less than 3. It states that there is no collinearity among independent variables and no critical biases influencing hypothesis testing (Hair et al., 2019).

Table 5: The Inner VIF analysis results

	VIF
BC → E per	1.000
BC → FP	1.822
BC → G per	1.000
BC → S per	1.000
E per → FP	1.374
G per → FP	1.225
S per → FP	2.042

4.3. Hypothesis testing

Table 6: The Path Coefficients analysis results

	Path coefficients	P values
BC → E per	-0.055	0.000
BC → FP	-0.512	0.222
BC → G per	0.029	0.374
BC → S per	-0.057	0.002
E per → FP	-0.041	0.962
G per → FP	1.291	0.367
S per → FP	-8.932	0.031

At a significance level of 5%, three hypotheses consisting of H1a, H1b, and H2b have statistical evidence to be accepted. The negative coefficients indicate inverse effects. Furthermore, the coefficients' absolute values suggest that board characteristics have a greater impact on social performance than environmental performance. The remaining hypotheses regarding direct effects do not have statistical evidence to support them as their p-values are greater than 0.05.

The adjusted R-squared value demonstrates that 16.9% of the variation in environmental performance and 43.7% of the variation in social performance can be explained by board characteristics. Additionally, the impact of social performance accounts for 39.4% of the variation in firm performance.

Besides, the f-square values show that the impact of board characteristics on environmental performance and financial performance is considered moderate. Meanwhile, its impact on social performance is strongest, with the highest f-square value being 0.779. Additionally, firm performance is strongly influenced by social performance, with the f-square value being 0.477.

Table 6: The adjusted R-square results

	R-square	R-square adjusted
E per	0.170	0.169
FP	0.396	0.394
G per	0.070	0.069
S per	0.438	0.437

Table 7: The f-square results

	f-square
BC → E per	0.204
BC → FP	0.238
BC → G per	0.076
BC → S per	0.779
E per → FP	0.000
G per → FP	0.026
S per → FP	0.477

Regarding the indirect effect of board characteristics on firm performance through mediating variables, hypothesis H4b related to the mediating role of social performance is accepted at a 5% significance level due to having a p-value less than 0.05.

Table 8: Specific indirect effect results

	Specific indirect effects	p-values
BC → E per → FP	0.002	0.964
BC → S per → FP	0.508	0.033
BC → G per → FP	0.037	0.243

The combined indirect effect from BC to FP has a P-value of 0.026, which is less than 0.05, and a standardized regression coefficient for the original sample of 0.547. These results comfirm the existence of an indirect relationship between BC and FP through ESG practices.

4.4. Discussion and Implications

ESG-related studies in Vietnam mainly focus on the relationship between sustainability information and financial performance to prove the need to integrate ESG information (Trinh Hiep Thien & Nguyen Xuan Hung, 2016; Ha Thi Thuy, 2021) or determine factors influencing the level of ESG information disclosure (Trinh Huu Luc & Tang Thanh Phuoc, 2019). Given that Vietnam is still in its early stages of ESG knowledge dissemination, it is crucial to carry out further research on the preparation and presentation of ESG reports, ensuring their ease and effectiveness for both large corporations and SMEs.

The research results support the acceptance of hypotheses H1a, H1b, H2b, H4b, and H4d, while rejecting the remaining ones. The practice of ESG in the social aspect has a negative relationship with firm performance, consistent with the results of some previous studies such as Ruan L. and Liu H. (2021). One reason could be that Vietnamese companies are in the early stage of ESG implementation, as Brown and Caylor (2006) suggested when they view ESG practices as an additional cost to satisfy various stakeholder groups rather than a long-term investment. This presents a challenge in managing diverse stakeholder expectations and contributing to stakeholder theory. Boards may struggle to integrate social concerns into strategic decisions without compromising financial performance, which reflects the tension inherent in balancing short-term profitability with long-term sustainability. One reason could be that managers sometimes overinvest in ESG to fulfill their personal interests, such as covering up bad news, recovering their personal image in the market, and catching media attention, which may not lead to an improvement in financial performance. Several contextual factors explain the observed negative impact on Vietnamese enterprises. Many firms view social practices more as a compliance burden than a strategic investment. Institutional challenges in Vietnam, such as weak investor protection and high family ownership concentration (La Porta et al., 2000), exacerbate this issue by increasing information asymmetry and reducing transparency. Furthermore, Di Tommaso et al. (2020), Sassen et al. (2016), and Lee et al. (2009) predict that in the long run, the cost impact of ESG activities will gradually diminish and the positive impact will emerge. This context highlights the need for improved ESG reporting and broader adoption strategies. Therefore, developing a legal framework for ESG disclosures and providing targeted ESG training can shift perceptions of ESG from mere compliance costs to valuable long-term investments.

Additionally, the research uncovered an unexpected negative impact of board characteristics on the environmental and social aspects of ESG practice. Conflicts of interest can be challenging for the board when implementing ESG in a company, especially in the short term when EGS can negatively affect firm performance, as shown by these research findings. There could be a potential misalignment between the board's actions and shareholder expectations, reflecting an agency problem in which boards are responsible for safeguarding shareholder interests. This misalignment may be due to boards prioritizing traditional financial goals over long-term sustainability initiatives. Vietnam's underdeveloped institutional framework, characterized by weak investor protection and high family ownership concentration (La Porta et al., 2000), exacerbates the issue. These factors contribute to reduced transparency and increased information asymmetry, making it difficult for boards to align ESG goals with overall firm strategy. Additionally, the limited readiness for ESG reporting (PwC Vietnam, 2022) exacerbates these issues as boards struggle to implement and oversee effective ESG practices. This context underscores the need for regulatory reforms and improved board training to address these challenges. To enhance ESG practices, it is crucial to establish a clear legal framework and improve board diversity, as diverse boards are more effective in promoting ESG measures (García Martín and Herrero, 2019). Supporting such initiatives through government policies and financial incentives can help overcome the current barriers and improve ESG implementation in Vietnamese firms.

The research also shows that the board's characteristics have an indirect impact on firm performance, with the ESactices, in general, and individual social practices acting as mediators. This finding highlights the complex role of boards in shaping ESG outcomes and their subsequent effects on performance. The indirect impact suggests that while board characteristics themselves do not directly affect performance, their influence on ESG practices does have a significant effect. This aligns with previous studies showing that board characteristics can impact ESG practices, which in turn affect performance (Brown and Caylor, 2006). The board of directors also faces difficulties in coordination, limiting their impact on firm performance. For example, integration difficulties and unequal power distribution can impede BOD members' effective contributions. Cognitive Theory and Upper Echelons Theory (UET) explain the observed negative effects, suggesting that board members' cognitive biases, experiences, and values may lead to suboptimal decision-making regarding ESG practices, particularly in the Vietnamese context. In Vietnam, low readiness for ESG reporting and coordination challenges within boards further exacerbate the negative impacts on firm performance. Many companies lack the necessary knowledge and resources for effective ESG implementation (PwC Vietnam, 2022). Overinvestment by managers, aimed at enhancing personal image or addressing negative news, can undermine long-term firm performance (Atan et al., 2018). This highlights the critical need for improved ESG reporting mechanisms and better board coordination to mitigate these issues. Additionally, establishing stronger regulatory frameworks and providing targeted support for ESG adoption can help boards better align their practices with performance goals. This approach will not only support improved firm performance but also foster a more sustainable business environment in Vietnam.

The fact that Vietnam is a developing country where ESG practices and awareness are not yet common can explain the differences between the research findings and typical features of previous studies on this topic. Furthermore, we collected samples from enterprises from 2018 to 2023, during which the pandemic had a significant impact on the economy and government policies, thereby validating the research results.

5. CONCLUSION AND RECOMMENDATIONS

This research advances understanding of the relationship between ESG disclosure and firm performance with board characteristics as moderating variance. By studying ESG disclosure based on three pillars, including E, S, and G, this study thoroughly investigates the impact of each sustainability activity on firm performance. This paper also shows that corporate social responsibility and sustainability efforts are increasingly integrated into business operations and play a significant role in the financial and non-financial results of the business. By providing evidence of the effects of each individual pillar on firm performance, managers gain a deeper understanding of the influence of each ESG component, enabling them to select the most suitable option for their strategic goals. Companies may encounter high costs at the start of ESG implementation, while the benefits may be small and difficult to evaluate, leading to a short-term negative effect on firm performance. In this context, the government should provide both financial and non-financial support to businesses to encourage them to implement ESG.

The study offers empirical evidence from an emerging market like Vietnam, but research on this topic still needs improvement, such as increasing the sample size or extending the research period. This study also used ESG disclosure as a stand-in for a company's commitment to ESG practices. However, if a company engages in greenwashing or does not provide enough ESG disclosure, this may not accurately reflect the scope or effectiveness of its actual ESG practices. Future research should take these factors into account to establish more accurate and efficient measurements.

Future ESG research could utilize a variety of research methods, such as case studies, surveys, interviews, and/or experiments, to construct robust models that demonstrate a process and an integrated approach between ESG practices, employees' organizational commitment, job performance, and financial performance. Experimental designs could also be used to identify the contexts in which the board of directors responds more or less sensitively to ESG conduct, potentially influencing their judgments and decisions that may affect firm performance. Another suggestion for further research is to investigate the impact of each ESG element on specific industries, such as agriculture, forestry, and information technology, as each industry has its own special characteristics that can affect ESG performance.

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