American Research Journal of Economics, Finance and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2836-9416
Impact Factor: 6.41
Journal Homepage: https://americaserial.com/Journals/index.php/ARJEFM
Email: contact@americaserial.com
Official Journal of America Serial Publication

EFFECT OF BOARD CHARACTERISTICS ON CARBON EMISSION DISCLOSURE: A STUDY OF OIL AND GAS FIRMS IN NIGERIA

[1]Ezekwere Uzochukwu (PhD) and [2]Bennee Emmanuel (PhD)
[1]Department of Accounting, Kingsley Ozumba Mbadiwe University, Ideato, Imo State
[2]Department of Accounting, Ignatius Ajuru University of Education, Port Harcourt, River State
E-mail: uzochukwu.ezekwere@komu.edu.ng; emmanuelbennee@gmail.com
DOI: https://doi.org/10.5281/zenodo.15737742

Abstract: *This study determined the effect of board characteristics on carbon emission disclosure of oil and gas firms in Nigeria from 2013-2023, using gender diversity, and board independent as the independent variables, while carbon emission disclosure was the dependent variable of the study. Data were extracted from the annual reports and account of the sampled firms. Descriptive Statistics of this study was applied, while Panel Least Square regression analysis was employed to test the hypotheses. The study indicates that gender diversity has significant and positive effect on carbon emission disclosure while board independence has a significant but negative effect on carbon emission disclosure. In conclusion, board characteristics have a significant effect on Carbon emission disclosure of oil and gas firms in Nigeria. Based on the study findings, the study recommended that since there is a positive relationship between gender diversity and environmental disclosure, the management of firms should sustain a gender mix that is likely to have improved financial performance.*
Keywords: *Gender diversity, Board independent and Carbon emission disclosure*

Introduction

A board of directors is a set of those who jointly supervise the activities of a corporation, which can be both a for-profit enterprise, nonprofit enterprise, and a central authority employer. The sort of board's powers, duties, and responsibilities are decided with the aid of government policies (along with the jurisdiction's organization's law) and the employer's own constitution and bylaws. These authorities may specify the number of participants of the board, how they're to be chosen, and the way often they are to fulfill (li, Qizi, Shahab, Wu, & Ntim, 2023). As a feature, Board members must be committed and devoted to their roles. They need to attend conferences often, put together earlier, and be willing to invest effort and time in their obligations. A secondary function is responsibility. An excessive-appearing board holds itself responsible for its selections and actions. Different characteristics of a Board consist of board length, board independence, and having a lady director.

The boards of directors are agents to the corporation. They may be made from people who oversee the sports of a corporation. The primary purpose of the board is to display and advise the top management within the discharge in their obligations to the owners (Louziri, & Oubal, 2025). Climate alternate is one of the maximum complicated environmental issues posing threats and providing opportunities for companies in all sectors. From a business point of view, corporate attitudes in the direction of weather alternate have modified considerably nowadays. In the early 1990s, agencies are frequently observed to cover up or ignore climate exchange issues. Over time, the aim of business has modified from an emphasis on shareholder satisfaction alone closer to mutual benefits for business and societies. Companies, as part of society, at the moment are faced with the task of a way to reduce emissions to mitigate weather trade. In addition, they may be worried with how weather trade will impact upon their operations, because the growth in atmospheric temperature has given rise to an accumulation of greenhouse fuel (GHG) emissions, especially of carbon dioxide.

The political context wherein specific international locations have exceptional positions concerning the destiny of international climate policies exposes groups to a totally excessive stage of regulatory uncertainty (Nie & Wang, 2019; Okafor, 2018). In the absence of a global regulatory framework for weather exchange, many firms now take into account a climate approach, a crucial enterprise exercise for competitive reasons. furthermore, even within the absence of presidency law, several companies have determined to constrain their impact on the worldwide weather and publicly adhere to a specific carbon norm, inclusive of carbon neutrality or carbon labels, to show their dedication to weather exchange mitigation on a voluntary foundation or in response to stakeholder stress from buyers, providers, or customers (Naciti & Centorrino, 2022). As a consequence, an increasing number of firms around the sector cautiously don't forget create and enforce carbon control method to mitigate carbon emissions.

The inconsistencies of findings from the reviewed literatures showed that there may be a gap in literature which this study sought to fill. In an attempt to ultimate the variable gap, this gift look at targeted on carbon emission disclosure as towards prior research that predominantly targeted on financial performance. The main objective of this study is to ascertain the effect of board characteristics on carbon emission disclosure of listed oil and gas firms in Nigeria. The specific objectives were to:

i. Determine the effect of gender diversity on carbon emission disclosure of listed oil and gas firms in Nigeria.

American Research Journal of Economics, Finance and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2836-9416
Impact Factor: 6.41
Journal Homepage: https://americaserial.com/Journals/index.php/ARJEFM
Email: contact@americaserial.com
Official Journal of America Serial Publication

ii. Assess the effect of board independence on carbon emission disclosure of listed oil and gas firms in Nigeria.

Conceptual Review

Board Characteristics

Board characteristics is the concept derived from the attributes or incentives variable that performs a good sized function in monitoring, controlling managers and may be described as a bridge between company management and shareholders (Ogbulafor, Alpheaus & Azubuike, 2025; Araoye & Olatunji, 2019). To understand the role of the board, board's characteristics encompass a group of people, who combine their talents and capabilities that together constitute the pool of social capital for their firm that is contributed toward executing the governance function (Bekiaris, 2021). for this reason, the board traits means directors and bosses in a vastly more complicated environment, an increasing number of accountable to and encouraged by using multiple stakeholders and compelled from all sides for better reporting on corporate fitness and behaviors (Emeka-Nwokeji, & Agubata, 2019). The capability of an employer so that you can resist financial demanding situations and perform nicely is thought to be depending on the particular attributes of its board of directors. The board is the ideally suited decision-making unit inside the organization, as the board of directors has the obligation to safeguard and maximize shareholder's wealth, oversee company performance, and investigate managerial performance (Awad, Gharios, Abu-Khalaf & Seissian, 2024).

Board Gender Diversity

Board gender diversity is the share of female directors to the full number of directors at the board (Bekiaris, 2021). Board gender variety is a widespread aspect of corporate governance; it is defined because the presence of female administrators at the board of administrators of corporations (Amahalu, Okoye, Obi & Iliemena, 2019). Gender diversity specializes in the percentage and number of ladies on forums (Zalata, Ntim,Choudhry, Hassanein & Elzahar, 2019). Board gender diversity approach equal or balanced representation of people from different genders in the place of work or different contexts and/or businesses. The quantity to which someone's gender identity, role, or expression differs from the cultural norms prescribed for human beings of a selected intercourse (Dinh, Dang & Trinh, 2025; Mofijul & Maksudur, 2019).

Mnif and Cherif (2021) reported that it is the share of men to females in an enterprise that can affect the way in which they have interaction and behave with one another at the work location, and thereby affect the social and cultural surroundings. Board gender range consists of an honest and equitable representation of people of various genders, generally known as an equitable ratio of males and females. Gender diversity on company boards studies and promotes gender diversity in fields historically ruled by male. It helps firms attracting and keeping gifted female, being especially relevant as more women be part of the hard work pressure all around the international (Somathilake, 2018). In the view of Arioglu (2020), female on board show extra duties, greater philanthropically incline and much more likely to alternate monetary overall performance for company social duties. Appointments of ladies at the board are expected to bring about variety of reviews and attitude to board deliberations; especially when it pertains to sustainability disclosure (Magomaa, Ernest & Kasheshi, 2024; Onyali & Okerekeoti, 2018).

Board independence

Board of director (BOD) is considered an internal governance mechanism. Many preceding research have shown that the independence of BOD has an influence on the overall performance of the organization (Shah, et al., 2022; Thuy, 2020). Board independence can be defined as the independence between BOD and board of control (Raza, et. al., 2023).

Corporate boards are the number one and dominant inner corporate governance mechanism and play a key position in monitoring control and aligning the interests of shareholders with management (Ali, et al., 2021). Boards are responsible for care and diligence, consisting of making sure that economic controls are effective. Board may also give management strategic pointers and may even act to study and ratify control proposals (Khatib, & Nour, 2021). Boards also spot issues early and can work out a whistle-blower characteristic (Bansal, et al., 2023).

Enterprise boards ought to have an impartial majority. An independent majority at the board is much more likely to take into account the quality pursuits of shareowners first. It is also likely to foster impartial decision-making and to mitigate conflicts of hobby which can get up (Alqatan, Chbib & Hussainey, 2019). Hussain, Rigoni & Orij (2023) showed that board's independence changed into now not associated with earning control even though the percentage of independent directors on the board become one-0.33 of the total majority, which means even though the employer had many impartial directors at the board, it would now not increase shareholders' return (Kanakriyah, 2021).

Carbon Emissions Disclosure

Global bank report (2019) reported that Carbon pricing is "an instrument that captures the external expenses of greenhouse gasoline (GHG) emissions - the fees of emissions that the general public pays for, which include damage to vegetation, health care costs from warmth waves and droughts, and loss of belongings from flooding and sea degree upward thrust and ties them to their assets thru a fee, commonly in the form of a price at the carbon dioxide (CO_2) emitted. A charge on carbon enables shift the burden for the damage from GHG emissions backs to those who are responsible for it and who can avoid it. instead of dictating who ought to reduce emissions in which and the way, a carbon

American Research Journal of Economics, Finance and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2836-9416
Impact Factor: 6.41
Journal Homepage: https://americaserial.com/Journals/index.php/ARJEFM
Email: contact@americaserial.com
Official Journal of America Serial Publication

rate presents an economic signal to emitters, and permits them to decide to either rework their sports and lower their emissions, or continue emitting and paying for their emissions.
In this way, the overall environmental aim is completed within the maximum bendy and least-price manner to society. Putting a good enough price on GHG emissions is of essential relevance to internalize the outside value of climate alternate within the broadest viable variety of monetary decision making and in setting financial incentives for smooth improvement. it may assist to mobilize the monetary investments required to stimulate smooth era and market innovation, fueling new, low-carbon drivers of financial growth. Governments and agencies have come to agree at the fundamental function of carbon pricing in the transition to a decarbonized economy.

Empirical Studies

Abiad, Abraham, El-Chaarani and Binsaddig (2025) determined the influence of corporate governance characteristics on bank financial performance in Gulf Cooperation Council countries from 2019 to 2023 using two-stage least squares and generalized method of moment's econometric methods. The study showed that CEO duality increases return on equity, with a non-significant impact on return on assets. The study also showed that bank size moderates the impacts of board size, board independence, and gender diversity in boards on the financial performance of banks. Bunyaminua, Yakubu and Oumarou (2025) ascertained the association between corporate governance mechanisms and firm market value using data from listed firms on the Ghana stock exchange spanning 2008 to 2018. Generalized method of moments (GMM) regression technique was employed. The study indicates significant linkages between specific governance variables and MvA. Notably, outside directors, gender diversity, frequency of board meetings, and audit committee size are found to significantly reduce firm value. Johennesse and Budidarma (2022) ascertained the effect of corporate governance characteristics on bank performance. Data were extracted from Data stream database, which included bank data from 34 countries of G20. The results showed that board size, gender diversity and board independence positively affected ROA but negatively and non-significantly affected price earnings ratio (PER). Mititean (2022) examined the effect of board's characteristics on the financial performance of firms operating in the energy industry in Romania from 2018 to 2021. The SPSS statistical program was used to run the regression model on the selected sample. This study found that CEO duality and board's meetings were negatively correlated with ROE, but positively correlated with ROA. Islam, Pervej and Lee (2022) analyzed the effect of characteristics of board on the financial outcomes of firms IN Bangladesh from 2016 to 2020. Regression analysis was conducted, and found that, except the number of Directors in the executive committee, no other independent variables have a significant impact on Return on Asset (ROA). Enofe and Igbinoba (2020) determined

American Research Journal of Economics, Finance and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2836-9416
Impact Factor: 6.41
Journal Homepage: https://americaserial.com/Journals/index.php/ARJEFM
Email: contact@americaserial.com
Official Journal of America Serial Publication

the effect of board characteristics on audit quality in Nigeria from 2014-2018. Descriptive and inferential statistics were employed to summarize the data and to draw inference on the population studied. Result from the binary probit regression revealed that board independence and diligence had positive relationship on audit quality. Jan-Endrikat, Charl de Villiers and Guenther (2020) analyzed the association between Board Characteristics and Corporate Social Responsibility (CSR) in Germany from 2011-2018, using a meta-analytic path model that accounted for the potential interplay between board characteristics in determining CSR and tests whether the presence of a CSR committee played a meditating role. Augustine (2020) investigated the effect of corporate board characteristics on the financial performance of Nigerian quoted firms 2011-2016. The study employed the random-effects and fixed-effects generalized least squares (GLS) regression to test the six hypotheses formulated for the study, while controlling for firm size and firm age. The study found that board size, CEO duality and gender diversity were negatively linked with return on capital employed (ROCE). Isa Usman, Zakariya'u Gurama and Sirajo-Murtala (2019) examined the effect of board characteristics on firm performance of non-financial listed companies in Nigeria from 2014-2015.The statistical instrument used was the fixed effect Panel least Square regression. Findings of this study showed that board independent has a positive but not significant relationship with Return on Equity (ROE) and Return on Asset (ROA). Chukwu and Nwabochi (2019) tested the impact of the board size on the financial performance of 136 Nigerian manufacturing firms for data from 2002-2012. Robust estimator developed by Beck-Katz (1995) was used for analysis. The results found positive relation between the board size and return on asset and Z Altiman score. Che-Ahmad and Chandren (2018) ascertained the effect of board structure on the financial performance of 348 firms quoted on Australian stock exchange from 2012 to 2017. Multiple regression models was employed and found that there is a positive and statistically significant relation between board composition and revenue growth. Al-Najjar (2018) ascertained the effect between market value added (MVA) and the performance of companies measures (earnings per share ratio, company size and investment of the companies listed in Tehran Stock Exchange for eight-year period (from the beginning of fiscal year 2005 by the end of fiscal year 2018). Correlation multiplier scatter diagrams and multiple regressions were employed and the study results indicated a significant relation between company size, earnings per share ratio, investment and market value added.

Methodology

Ex-post facto research design was employed in this study. This study was treated as ex-post facto research since it relied on historical data. The population of the study consists of all the nine (9) Oil and Gas firms listed on the Nigerian Exchange Group (NGX). Data to be used in this study was

American Research Journal of Economics, Finance and Management
Volume 13 Issue 2, April-June 2025
ISSN: 2836-9416
Impact Factor: 6.41
Journal Homepage: https://americaserial.com/Journals/index.php/ARJEFM
Email: contact@americaserial.com
Official Journal of America Serial Publication

collected mainly from secondary source. These data were obtained for eleven (11) year's annual reports and account and sustainability report from 2013-2023 of the sample Oil and Gas firms.
This study employed descriptive statistics and Panel least square (PLS) regression analysis.

Model Specification

This study modified the model of Okocha, Okoye, Amahalu, & Obi, (2022):

$ERD = \beta o + \beta_1 GDV_{it} + \beta_2 BDSZ_{it} + \beta_3 ACFE_{it} + \mu_{it}$ - - - - i

Where:
ERD = Environmental Remediation Disclosure
GDV = Gender Diversity
BDSZ = Board Size
ACFE = Audit Committee Financial Expertise

Consequent upon the adapted model, the following regression equations were constructed:

$CED = \beta o + \beta_1 BGD_{it} + \beta_2 BID_{it} + \beta_3 ALEV_{it} + \mu_{it}$ - - - - ...ii

Where:
β_o = Constant term (intercept)
β_{it}= Coefficients of Board Characteristics for firm i in period t
μ_{it} = Error term/unexplained variable(s) of firm i in period t
CED_{it} = Carbon Emission Disclosure of firm i in period t
BGD_{it} = Board Gender Diversity of firm i in period t
BID_{it} = Board Independence of firm i in period t
LEV_{it} = Leverage of firm i in period t

Decision Rule

Accept the null hypothesis (H_o) if the p-value of the test is greater than 0.05, otherwise reject and accept the alternate hypothesis (H_1).

Data Analysis and Result

	CED	BGD	BID	LEV
Mean	0.818182	7835.636	0.545455	0.127324
Median	1.000000	5400.000	1.000000	0.133536
Maximum	1.000000	47546.00	1.000000	0.230298
Minimum	0.000000	0.000000	0.000000	0.032253
Std. Dev.	0.387657	12968.60	0.500464	0.066987
Skewness	-1.649916	2.573287	-0.182574	0.044830
Kurtosis	3.722222	8.199958	1.033333	1.800592
Jarque-Bera	47.06829	220.7980	16.50458	5.967301

Probability	0.000000	0.000000	0.000261	0.050608
Sum	81.00000	775728.0	54.00000	12.60512
Sum Sq. Dev.	14.72727	1.65E+10	24.54545	0.439754
Observations	99	99	99	99

From table 1, it could be observed that the mean values of the carbon emission disclosure (CED) stood at 0.818. Furthermore, the mean value of board gender diversity (BGD) value of showed an average value of 7835.64. Also, the mean values of board independent disclosure (BID) showed a value of 0.545. On firm leverage (LEV), the mean values stood at 0.127

The kurtosis of 3.722222, 8.199958, 1.033333, and 1.800592 for CED, BGD, BID, and LEV showing a distribution that is strong, suggesting a concentration of values around the mean with potential outliers. The Jarque-Bera probability of 0.000000, 0.000000, 0.000261 and 0.050608 confirms that the CED, BGD, BIGD, and LEV data is significantly non-normally distributed showed that traditional parametric analyses may need to be approached with caution.

On the Jarque–Bera test of goodness-of-fit, the result suggested that only the data on firms in the Nigerian oil and gas firms. Theorem revealed that the violation of the normality assumption posed no major problem in panel data analysis, especially with large firm-year observations (Ghasem and Zahediasl, 2012).

Test of Hypotheses

Table 1: Panel Least Square Regression Analysis testing the effect of BGD,BID, LEV on CED

Dependent Variable: CED
Method: Panel Least Squares
Date: 06/24/25 Time: 10:02
Sample: 2013 2023
Periods included: 11
Cross-sections included: 9
Total panel (balanced) observations: 99

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.357148	0.084789	4.212218	0.0001
BGD	1.12E-05	2.03E-06	5.504575	0.0000
BID	-0.138831	0.060574	-2.291926	0.0241

LEV	3.528034	0.450712	7.827684	0.0000

R-squared	0.574266	Mean dependent var	0.818182
Adjusted R-squared	0.560822	S.D. dependent var	0.387657
S.E. of regression	0.256903	Akaike info criterion	0.159326
Sum squared resid	6.269901	Schwarz criterion	0.264179
Log likelihood	-3.886628	Hannan-Quinn criter.	0.201750
F-statistic	42.71468	Durbin-Watson stat	2.387128
Prob(F-statistic)	0.000000		

In table 2, a simple least square regression analysis was conducted to test the effect between board gender diversity (BGD), board independent (BID), firm leverage (LEV) and carbon emission disclosure (CED). The R-squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. The value of R squared was 0.57, showing that there was variation of 57% on CED due to changes in BGD, BID and LEV. This implies that 57% changes in CED could be accounted for by BGD, BID and LEV, while 43% was explained by unknown variables that were not included in the model.

The Durbin-Watson Statistic of 2.387 suggests that the model does not contain serial correlation. The F-statistic of the regression is equal to 42.71468. The associated F-statistic probability is 0.000.

Test of Hypothesis one

Ho_1: Gender diversity has no significant effect on carbon emission disclosure of listed oil and gas firms in Nigeria

H_1: Gender diversity has significant effect on carbon emission disclosure of listed oil and gas firms in Nigeria

The table showed that BGD is positively and significantly affect the CED of oil and gas firms in Nigeria. The beta coefficient of the variable; $\beta_1 = 1.120$; the slope coefficient shows that p-value = $0.000 < 0.05$. Thus, a significant and positive effect exists between BGD and CED. The overall regression result with P-value = 0.000 provides a basis for accepting the alternative hypothesis, which states that board gender diversity has a significant and positive effect on carbon emission disclosure of oil and gas firms in Nigeria.

Hypothesis two

Ho_2: Board independence has no significant effect on carbon emission disclosure of oil and gas firms in Nigeria

H_2: Board independence has significant effect on carbon emission disclosure of oil and gas firms in Nigeria

The table showed that BID is negatively and significantly affect the CED of oil and gas firms in Nigeria. The beta coefficient of the variable; β_1 = -0.139; the slope coefficient shows that p-value = 0.024 < 0.05. Thus, a significant and negative effect exists between BID and CED. The overall regression result with P-value = 0.024 provides a basis for accepting the alternative hypothesis, which states that board independent has a significant but negative effect on carbon emission disclosure of oil and gas firms in Nigeria.

Discussion of Findings

The regression output shows that a significant and positive effect exists between BGD and CED. The regression result with P-value = 0.000 provides a basis for accepting the alternative hypothesis, which states that board gender diversity has a significant and positive effect on carbon emission disclosure of oil and gas firms in Nigeria. This result agreed with Ogunmodede, Ibukun-Falayi and Alake (2024) reports, but disagrees with the result of Okoye, Oranefofor and Agu (2024).

The regression output shows that a significant and negative effect exists between BID and CED. The overall regression result with P-value = 0.024 provides a basis for accepting the alternative hypothesis, which states that board independent has a significant but negative effect on carbon emission disclosure of oil and gas firms in Nigeria. The result of this study is in line with Pereira, Monteiro, Silva and Lima (2023) but negates that of the study of Nguyen, Pham, Truong, Phi, Le and Vu (2023).

Conclusion and Recommendations

This study determined the effect of board characteristics on carbon emission disclosure of oil and gas firms in Nigeria from 20132-2023, using gender diversity, and board independent as the independent variables, while carbon emission disclosure was the dependent variable of the study. Data were extracted from the annual reports and account of the sampled firms. Descriptive Statistics of this study was applied, while Panel Least Square regression analysis was employed to test the hypotheses. The study indicates that gender diversity has significant and positive effect on carbon emission disclosure while board independence has a significant but negative effect on carbon emission disclosure. In conclusion, board characteristics have a significant effect on Carbon emission disclosure of oil and gas firms in Nigeria.

On the premise of these study findings, the following recommendations were made:

i. Since there is a positive relationship between gender diversity and environmental disclosure, the management of firms should sustain a gender mix that is likely to have improved financial performance

ii. The positive relationship between board independence and carbon emission disclosure is an indication that board independence should be increased through creativity and innovation in order to manage the relationship between the boards and stakeholders leading to an improvement in the firm financial performance and disclosure activities.

References

Abiad, Z., Abraham, R., El-Chaarani, H., & Binsaddig, R. O. (2025). The impact of board of directors' characteristics on the financial performance of the banking sector in Gulf Cooperation Council (GCC) countries: The moderating role of bank size. Journal of Risk and Financial Management, 18(1), 40.

Ali, S., Hussain, N., & Iqbal, J. (2021). Corporate governance and the insolvency risk of financial institutions. The North American Journal of Economics and Finance, 55, 101311

Al-Najjar, N. (2018). Market value added and the performance of companies measures on the companies listed on Tehran Stock Exchange. Research Journal of Finance and Accounting, 7(8), 211-219.

Alqatan, A., Chbib, I., & Hussainey, K. (2019). How does board structure impact on firm performance in the UK? Corporate Board: Role, Duties, and Composition, 15(2), 18-27.

Amahalu, N.N., Okoye, P.V., Obi, J.C., & Iliemena, R.O. (2019). Effect of board diversity on financial performance of quoted natural resources firms in Nigeria. Journal of Global Accounting, 6(2), 36-56

Amahalu, N.N., Okoye, P.V., Obi, J.C., & Iliemena, R.O. (2019). Effect of board diversity on financial performance of quoted natural resources firms in Nigeria. Journal of Global Accounting, 6(2), 36-56

Araoye F.E., & Olatunji, T.E. (2019). Board meetings and financial performance of insurance companies in Nigeria. European Journal of Accounting, Auditing and Finance Research, 7(9), 1-16.

Arioglu, E. (2020). The affiliations and characteristics of female directors and earnings management: Evidence from Turkey. Managerial Auditing Journal, 35(7), 927–953.

Augustine, G. (2020). Impact of corporate board characteristics on the financial performance of Nigerian quoted firms 2011-2016. International Journal of Business & Law research, 8(1), 144-155.

Awad, A.B., Gharios, R., Abu-Khalaf, B., & Seissian, L.A. (2024). Board characteristics and bank stock performance: Empirical Evidence from the MENA Region. Risks 12(3), 81.

Bansal, A., Samontaray, D. P., Aljalahma, A. K., & Khadim, M. D. (2023). Does the Board Influence the Bank's Performance? An Islamic & Commercial Banking Experience. International Journal of Professional Business Review, 8(3), e01080-e01080.

Bekiaris, M. (2021). Board structure and firm performance: An empirical study of Greek systematic banks. Journal of Accounting and Taxation, 13(2), 110-121.

Bunyaminua, A., Yakubu, I.N., & Oumarou, S. (2025). The impact of board attributes and ownership concentration on firm market value: empirical evidence from an emerging market. Cogent Business & Management, 12(1), 2437147.

Che-Ahmad F., & Chandren, F. (2018). Board structure on the financial performance of 348 firms quoted on Australian stock exchange for 2012-2017. Academic Journal of Interdisciplinary Studies, 4(1), 283-290.

Chukwu, G.T & Nwabochi, N. (2019). Audit committee characteristics and timeliness of corporate financial reporting in the Nigerian insurance industry. International Journal of Managerial Studies and Research, 7(4), 86-95.

Dinh, P.H., Dang, T.H., & Trinh, N.M. (2025). The Impact of Board Characteristics on Business Performance in the 4.0 Era: Empirical Research from Banks Listed on the Vietnamese Stock Exchange. 6th International Conference on Industry 4.0 and Smart Manufacturing

Emeka-Nwokeji, N.A., & Agubata S.N. (2019). Board attributes and corporate performance: evidence from non-financial firms in Nigeria. Journal of Economics and Business, 2(2), 205-217.

Enofe, A., & Igbinoba, W. (2020). Impact of board characteristics on audit quality in Nigeria. International Journal of Academic Research in Accounting, Finance and Management Sciences, 8(3), 101-115.

Hussain, N., Rigoni, U., & Orij, R. (2023). CEO duality and corporate sustainability performance: Empirical evidence from Europe. Sustainability Accounting, Management and Policy Journal, 14(1), 56-77.

Isa-Usman, N., Zakariya'u, E., & Murtala, H. (2019). Impact of board characteristic on firm performance of non-financial listed companies in Nigeria. Business and Economic Horizons, 14(3), 587-614.

Islam, K.M. Pervej, S., & Lee, Y. (2022). The impact of board characteristics on firm's financial performance: A study on non-bank financial institutions of Bangladesh. International Journal of Science and Business, 12(1), 58-69.

Jan, E., Charl de Villiers, R., & Guenther, L. (2020). Board characteristics and corporate social responsibility in Germany from 2011-2018. IIMB Management Review, 28(3), 160-169.

Johennesse, L.C., & Budidarma, G.M. (2022). Board characteristics and bank performance: Which factor is more important? Indonesian Journal of Business Analytics (IJBA), 2(1), 1-12.

Kanakriyah, R. (2021). The impact of board of directors' characteristics on firm performance; A case study in Jordan. Journal of Asian Finance, Economics and Business, 8(3), 0341- 0350.

Khatib, S. F., & Nour, A. N. I. (2021). the impact of corporate governance on firm performance during the coviD-19pandemic: Evidence from Malaysia. Journal of Asian Finance, Economics and Business, 8(2), 0943–0952.

li, B., Qizi, Z., Shahab, Y., Wu, X., & Ntim, C.G. (2023). High-speed rail network and earnings management techniquesusage trade-off: the moderating effects of governance and religion. Managerial Auditing Journal, 39(1), 26–49.

Louziri, R., & Oubal, K. (2025). Characteristics of the chairman of the board of directors and their impact on dividend payments in the Moroccan stock exchange. Journal of Risk and Financial Management, 18(2), 70.

Magomaa, A., Ernest, E., & Kasheshi, E., (2024). Board characteristics and financial performance of banks listed on frontier stock markets in East Africa. A panel analysis. Cogent Business & Management, 11(1), 2400615

Mititean, P. (2022). Is the financial performance affected by board characteristics during covid-19? Evidence from the energy industry. Oradea Journal of Business and Economics, 7(Special Issue), 100-110

Mnif, Y., & Cherif, I. (2021). Female board directorship and earnings management. Pacific Accounting Review, 33(1), 114–141.

Naciti, V., & Giovanna, C. (2022). Effectiveness of business practices related to climate change as a driver for improving environmental performance. American Journal of Applied Sciences, 19, 21-33.

Nguyen, S.L., Pham, C.D., Truong, T.V., Phi, T.V., Le, L.T., & Vu, T.T. (2023). Relationship between capital structure and firm profitability: Evidence from Vietnamese listed companies. International Journal of Financial Studies, 11(6), 45.

Ogbulafor, L., Alpheaus, O.E., & Azubuike, J.U. (2025). Effect of board characteristics on the financial performance of listed deposit money banks in Nigeria. Alvan Journal of Social Sciences (AJSS). Faculty of Social and Management Sciences Alvan Ikoku Federal University Of Education, Owerri, 2(1), 1-22.

Ogunmodede, E.O., Ibukun-Falayi, O.R., & Alake, S.F. (2024). Firms attributes and sustainability disclosures a study of less sensitive environmental sector in Nigeria. European Journal of Accounting, Auditing and Finance Research, 12(6), 17-31.

Okafor, T.G. (2018). Environmental costs accounting and reporting on firm financial performance: A survey of quoted Nigerian oil companies. International Journal of Finance and Accounting, 7(1), 1-6.

Okoye, N.C., Oranefofor P.C., & Agu, S.I. (2024). Empirical study of the effect of sustainability accounting disclosures on financial performance of brewery firms in Nigeria: Evidence from Nigerian Breweries PLC. European Journal of Accounting, Auditing and Finance Research, 12(4), 109-123.

Onyali, C.I., & Okerekeoti, C. U. (2018) Board heterogeneity and corporate performance of firms in Nigeria. International Journal of Academic Research in Accounting, Finance and Management Sciences, 8(3), 101-115.

Pereira, C., Monteiro, A., Silva, D., & Lima, A. (2023). Do the levels of environmental sustainability disclosure and indebtness affect the quality of earnings? Sustainability, 15, 2871.

Raza, M. M., Tahir, S. H., Raza, H., Ali, A. F., & Alvi, A. R. (2023). Board characteristics and firm performance: A configurational analysis. JISR management and social sciences & economics, 21 (1), 69-91.

Shah, A.A., Ahmed, W., Iqbal, M.. & Abid, M.A. (2022). Impact of attributes of audit committee on productivity of intellectual capital (empirical evidence rom Pakistan). Review of Applied Management and Social Sciences, 5(4), 557-572.

Somathilake, H. (2018). Effect of board characteristic on firm financial performance. Global Scientific Journal, 6(5), 117-127.

Thuy, C. T. (2020). The impact of board characteristics on financial performance of joint stock companies listed on Vietnam stock market. Asian Journal of Economic and Business Research, 31(3), 43-60.

World Bank. (2019). the World Bank's approach to grievance redress in projects. World Bank, Washington, DC.

Zalata, A.M., Ntim, C.G., Choudhry, T., Hassanein, A., & Elzahar, H. (2019). Female directors and managerial opportunism: Monitoring versus advisory female directors. The Leadership Quarterly, 30(5), 101309.