IMPACT OF BOARD INDEPENDENCE, BOARD RISK MANAGEMENT AND BOARD FOREIGN DIVERSITY ON FINANCIAL DISTRESS OF MANUFACTURING FIRMS LISTED ON THE NIGERIAN EXCHANGE GROUP

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Abstract:
This study was motivated by the observed persistent financial distress confronting the manufacturing sector, a phenomenon that has emerged as a critical concern in Nigeria and other developing economies. Given the sector's fundamental contribution to national development, understanding the underlying causes and implications of financial distress remains imperative. Its primary objective was to investigate how corporate governance mechanisms affect the likelihood of financial distress of manufacturing firms listed on the Nigerian Exchange Group (NGX). The research used agency theory and employed a quantitative longitudinal research design, using data extracted from the audited annual financial reports of listed manufacturing firms over an eleven-year period from 2014 to 2024. The study focused on a population of all eighty (80) manufacturing firms listed on the NGX as at 31st December, 2024. A purposive sampling technique was applied, investigating 40 of these firms based on complete audited annual financial reports published on the NGX. The descriptive statistic and pooled OLS regression were used for the data analysis. The pooled OLS regression results reveal that board risk management ($\beta = 15.858$, $p < 0.001$) and board foreign diversity ($\beta = 34.636$, $p < 0.001$) significantly mitigate financial distress, with board foreign diversity demonstrating the strongest protective effect among all governance mechanisms examined. Conversely, board independence ($\beta = 1.628$, $p = 0.882$) show no statistically significant effects on financial distress. The model explains 11.4% of variance in financial distress ($R^2 = 0.102$, $p < 0.001$), with control variables firm size and firm age demonstrating significant negative relationships with distress. This study recommends that manufacturing firms should establish mandatory independent risk management committees and pursue strategic board internationalization. While the investors and financial analysts should incorporate governance-weighted investment frameworks. The regulatory bodies (SEC, NXG, FRCN) should mandate board-level risk management committees, create incentives for board internationalization, develop early warning systems and integrate governance into industrial policy. The study contributes to corporate governance literature and offers actionable insights for policymakers, corporate boards, and investors that establishing dedicated risk management committees and pursuing board internationalization represent the most promising pathways for preventing financial distress among Nigerian manufacturing firms. Further, this study's novelty lies in its comprehensive eleven-year analysis (2014–2024), which allows for an in-depth assessment of financial distress trends, policy impacts, and government interventions within Nigeria's manufacturing sector.

Keywords: Financial Distress, Board Independence, Board Risk Management, Board Foreign Diversity, Grover's G-Score Model.

1.0 Introduction

The manufacturing sector remains a cornerstone of global economic development, though regional contributions vary considerably. Globally, manufacturing accounts for roughly 16% of world GDP as of 2023, averaging 12.05% across 164 countries, reflecting its enduring importance even as economies shift toward services (World Bank Group, 2025). Leading economies show notable differences: China leads with 28% of GDP from manufacturing and over $5 trillion in value added in 2022, while the United States contributes about 11% ($2.6 trillion), Japan 20%, and Germany 18% (World Bank Group, 2025). Within Africa, North Africa leads at 15% in 2023, while South Africa contributed 524.5 billion rand (roughly $29 billion) in 2023 (Galal, 2025). By Q4 2023, Nigeria's manufacturing sector contributed 8.23% to real GDP, although the sector employs over 1.5 million people across food processing, cement, textiles, and pharmaceuticals, it has hovered around 13% of GDP since 2020 (Galal, 2025).

One of the most significant threats confronting businesses, regardless of size or operational scope, is insolvency, as documented in early empirical work by Bello, Bala, and Falola (2016), who show that business failure rates over the past two decades have exceeded levels observed since the early 1930s. The authors attribute this trend to macroeconomic pressures such as high interest rates, recession-induced profit squeeze, heavy debt burdens, and industry-specific factors, including regulatory constraints and operational characteristics. Weak corporate governance structures, particularly ineffective board oversight and poor alignment of managerial incentives have also been identified as critical contributors to firm vulnerability and insolvency risk (Bello, 2019; Bello, Kurfi, & Tijjani, 2021).

Despite the manufacturing sector's economic contributions, manufacturing firms in developed and developing countries, including Nigeria, have continued to experience persistent financial distress. Empirical evidence by Muamar (2020) and Ibrahim and Oloyede (2020) confirms that a substantial number of manufacturing firms face sustained financial distress. Reports by the United Nations Industrial Development Organization (UNIDO) (2020) and the World Bank further identify financial distress as a major post-COVID-19 challenge confronting manufacturing firms globally, with governance deficiencies and weak institutional controls exacerbating firms' exposure to financial instability (Bello, Kurfi, & Tijjani, 2021).

Globally, the manufacturing sector faces significant financial distress, leading to shutdowns and operational difficulties. In the UK, a 2018 report by *The Guardian* indicated that nearly half a million firms (493,296) were in financial distress at the beginning of 2018, with 174,039 companies entering insolvency by year-

end, representing a 0.7% increase from 2017. In Nigeria, the Manufacturing Association of Nigeria (MAN) (2024) reported that 767 manufacturing companies ceased operations and 335 experienced financial distress in 2023. Similarly, Abubakar et al. (2023) document financial distress among several Nigerian manufacturing firms, including Cadbury Nigeria Plc., Nigerian Breweries, Unilever, Honeywell Flour Mills, Nestlé Nigeria Plc., and Champion Brewery Plc., largely attributed to governance-related failures and ineffective corporate governance practices, consistent with earlier evidence linking ownership structure and governance quality to firm performance outcomes (Bello, 2019).

These instances of financial distress raise concerns about the governance of manufacturing businesses (Abubakar et al., 2023), particularly regarding board effectiveness, stakeholder protection, and accountability mechanisms, which remain central to firm survival and long-term value creation (Bello, Kurfi, & Tijjani, 2021).

Financial distress can be observed through a firm's declining performance, inability to meet financial obligations, lack of dividend distributions, cash flow and liquidity issues, and labour terminations (Theresa & Pradana, 2022). It can lead to bankruptcy, causing investor losses and economic downturns (Rizaky & Dillak, 2020). Liquidity constraints - reflecting a firm’s inability to meet short-term obligations as they fall due are a key channel through which financial distress manifests, particularly in capital-intensive manufacturing firms (Hameed, Kurfi, & Bello, 2020). Jhunjhunwala (2024) highlights its broader impact, eroding investor confidence and slowing economic growth. Financial distress serves as an early warning for intervention (Ebimobowei et al., 2024), yet no comprehensive global solutions exist.

However, in previous research literature, factors affecting financial distress are generally categorized as internal or external (Hassan et al. 2023; Nursal et al. 2023; Wati & Kasingku 2022; Candradewi et al. 2021; Fiscienthar 2021). Internal factors include financial aspects like profitability, liquidity, and leverage, as well as non-financial aspects such as corporate governance, operational efficiency, and company characteristics (Hassan et al. 2023; Nursal et al. 2023; Wati & Kasingku 2022; Candradewi et al. 2021; Fiscienthar 2021). External factors consist of macroeconomic conditions like interest rates, GDP growth, and inflation (Hassan et al. 2023; Nursal et al. 2023; Wati & Kasingku 2022; Candradewi et al. 2021; Fiscienthar 2021). Olaniyan and Omotola (2020) noted that economic instability and poor corporate governance contribute to financial distress in the Nigerian manufacturing sector. Studies suggest that poor corporate governance is often a root cause of financial distress (Affes & Jarboui, 2023). Conversely, strong corporate governance can help companies avoid financial distress, improve firm’s financial performance, and

contribute to economic growth (Affes & Jarboui, 2023). Studies by Soesetio (2023) and Bravo-Urquiza and Moreno-Ureba (2021) suggest that implementing good corporate governance can prevent financial distress.

The 2018 Nigerian Code of Corporate Governance (NCCG) aims to promote transparency, accountability, sustainability, integrity, and trust in the corporate sector through principles and guidelines for effective board composition, leadership, risk management, internal controls, and financial reporting. Etomi and Partners (2019) highlight these focuses of the NCCG. Lawal et al. (2022) view corporate governance as ensuring openness, honesty, transparency, responsibility, morality, and compliance with legal requirements. Fiscienthar (2021) posits that corporate governance mechanisms within a company can be implemented through supervision, ownership structure, or both. This paper examines the impact of board independence, board risk management, and board foreign diversity on the financial distress of listed manufacturing firms in Nigeria.

Board independence stands as one of the most important pillars of good corporate governance, acting as a crucial tool for mitigating conflicts between management and shareholders while strengthening firm oversight. When directors are independent - meaning they have no significant financial or personal ties to management, they are better positioned to provide unbiased monitoring and strategic advice that can help prevent financial distress.

Prior empirical evidence documents divergent views regarding the effectiveness of board independence. Some strands of the literature suggest that independent directors enhance monitoring quality and strengthen oversight, while other perspectives argue that excessive board independence may weaken effectiveness due to limited firm-specific knowledge, informational asymmetry, and constrained involvement in strategic decision-making. Drawing on evidence from Nigerian listed firms, Bello, Kurfi, and Tijjani (2021) demonstrate that board independence can exert both positive and negative influences on market-related outcomes, underscoring the contextual nature of its governance role.

More recent studies extend this governance debate by linking board independence directly to firm survival and financial distress outcomes. Evidence from manufacturing firms indicates that board independence is statistically associated with firms' ability to withstand financial distress, reinforcing its relevance as a governance mechanism for enhancing corporate resilience (Mani et al., 2023; Ofori et al., 2024).

Complementing board independence, board risk management has become a specialized part of corporate governance that gained prominence after major financial crises around the world and increased regulatory scrutiny. Companies started establishing dedicated risk

management committees at the board level because they realized that managing risks properly needs dedicated, specialized, and focused attention from top organizational level. Recent research examining the impact of board risk management activities shows how important this has become for manufacturing companies, demonstrating that this governance tool is becoming increasingly vital (Ikpesu et al., 2022).

In today's increasingly interconnected global economy, board foreign diversity has emerged as another fundamental corporate governance mechanism. Referring to the inclusion of board members from diverse national origins that possess international business experience, multi-cultural competences and global network connections that enrich board deliberations and oversight has become a significant governance consideration as companies operate in an increased globalized business environment. The idea behind this comes from resource-based theory, which suggests that diverse human capital resources create a competitive edge. According to Mohsni et al. (2021), manufacturing companies, especially those that trade internationally or want to expand globally, can really benefit from having foreign directors who know how to navigate complicated international markets, understand different countries' rules and regulations, and manage operations across borders.

Studies on the relationship between corporate governance mechanisms and financial distress present mixed findings. Hassan et al. (2023) found that board independence negatively affects financial distress in Nigerian manufacturing firms, while Humairoh and Nurulita (2022) and Binwai and Mustapha (2024) found no impact. Additionally, board-level risk management, which is expected to provide early warning signs and proactive measures against financial distress, is also inconsistently implemented across various Nigerian manufacturing companies, raising questions about its real effectiveness (Ibrahim & Yaya, 2022). Similarly, board foreign diversity is theorized to provide international best practices and fresh perspectives that help firms make strategic decisions, however its empirical impact on firm financial soundness in the Nigerian context remains limited and under-explored (Ezeani et al., 2024). Given these conflicting findings this paper intends to examine how three key corporate governance mechanisms—board independence, board risk management, and board foreign diversity—affect the likelihood of financial distress among manufacturing firms listed on the Nigerian Stock Exchange—area understudied in Nigeria (Umar et al., 2020). In addition, most existing literature focus on performance metrics rather than distress indicators, leaving a critical area understudied. This gap is particularly concerning given that effective corporate governance can be instrumental in preventing financial distress by ensuring judicious management and oversight. Lastly, the study intends to apply Grover's G-Score

model to assess financial distress likelihood from 2014 to 2023. Nayan et al. (2024) found this model to have the highest accuracy in predicting financial distress in manufacturing firms, recommending its use in future research. In light of the preceding analysis, the following research questions are proposed for investigation:

i. To what extent does board independence has significant effect on financial distress of manufacturing firms listed on the Nigerian Exchange Group?
ii. How does board risk management significantly influence financial distress of manufacturing firms listed on the Nigerian Exchange Group?
iii. What is the impact of board foreign diversity on the likelihood of financial distress of manufacturing firms listed on the Nigerian Exchange Group?

2. Literature Review

2.1. Concept of Financial Distress

There have been several views regarding concept financial distress depending on how the scholars understood it. For instance, Walela et al. (2022) opined that financial distress is a situation that make companies unable to meet maturing financial obligations to their creditors and may result in restructuring and corporate bankruptcy. Furthermore, Rizaky and Dillak (2020) viewed financial distress as the level of financial difficulty of a company with indications of a decrease in the company's internal financial performance and can result in bankruptcy. In light of the views above as well as for the purpose of this study, financial distress can be described as a state of consistent decline in the financial condition of a firm, which may lead to liquidation or bankruptcy.

2.2 Concept of Corporate Governance Mechanisms

The concept of corporate governance was developed due to the need for regulation of companies. This is necessitated due to the prevalence of information asymmetry and conflict of interest between company's shareholders and managers. There are several views by different scholars regarding corporate governance. Scholars like Adeosun (2022) viewed the concept of corporate governance as a mechanism that gives structure to the processes and management of an organization through a series of established rules and practices. Additionally, Lawal et al. (2022) stated that corporate governance guarantees openness, honesty, transparency, responsibility, morality and ensures compliance with legal requirements that guides the establishment of organizations and their financial reporting practices.

Study by Wang and Chen (2020) described board independence as the ability of the board to make decisions without being influenced by management or other external factors. Again, Klein (2020) viewed the concept board independence as one that is free from management's influence and is able to exercise its fiduciary duties in the best

interests of the company and its shareholders. Therefore, independent boards play a crucial role in preventing financial distress through effective oversight of management decisions that protect company interests.

Frank and Ukpong (2023) viewed the concept of board risk management as the degree of autonomy and impartiality maintained by the members of the risk management committee within an organization. In addition, Gao et al. (2020) stated that independent of board risk management can provide a safety net against financial distress by ensuring that risks are assessed and mitigated objectively, without influence from management or other stakeholders. Therefore, board risk management independence represents the board's capacity to provide autonomous risk oversight and management, free from management influence, to prevent financial distress.

The concept of board foreign diversity has been explored by various researchers, few of them observed include; Hassan and Kim (2022) described the concept board foreign diversity as the composition of board members from diverse national origins who possess international business experience, multi-cultural competences and global network connections that enrich board deliberations and oversight. Similarly, Anderson et al. (2021) viewed board foreign diversity as the extent to which a corporate board includes members with foreign nationalities, international educational qualifications, and substantial professional experience in different countries, contributing to enhance global market understanding and strategic decision-making capabilities. This study conceptualized board foreign diversity as the presence of foreign or international members on a company's board of directors.

2.3 Review of Empirical Studies

2.3.1 Board Independence and Financial Distress

Many studies have examined the relationships between board independence and financial distress across the globe. Some of the ones observed include; Binwai and Mustapha (2024) assessed how board independence and board gender diversity affect financial distress likelihood of listed consumer goods firms in Nigeria from 2008 to 2022. The data of the study were obtained from 13 consumer goods firms. Regression results show board independence had no significant effect, while board gender diversity significantly influenced financial distress likelihood of listed consumer goods firms in Nigeria. However, Begum et al. (2023) examined how board independence, auditor independence, auditor opinion, sponsor directors ownership, foreign shareholders, sales growth, performance, liquidity and firm size affect financial distress of pharmaceuticals firms listed on the Dhaka Stock Exchange between 2012 and 2021. A longitudinal research design was employed and data were obtained from 30 pharmaceuticals enterprises. Descriptive

and regression results demonstrate that board independence, auditor independence, auditor opinion, sponsor directors ownership, foreign shareholders, sales growth, performance, liquidity and firm size significantly influence financial distress.

Similarly, Hassan et al. (2023) investigated the influence of board independence, board composition, CEO duality, audit committee, firm size and leverage on financial distress of non-financial firms listed on the Pakistan Stock Exchange from 2014 to 2019. The data were obtained from 76 non-financial firms for the study. The regressions results demonstrate that board composition and CEO duality is having a positive significant link with financial distress while board independence, audit committee, firm size, and leverage have a negative but insignificant effect. Again, Kamau et al. (2023) assessed the impact of board independence, board size, audit committee independence and firm size on financial distress among the firms listed on the Nairobi Securities Exchange. The data were obtained from 39 firms sampled for the study. The study employed a Type I Sum of Squares approach using XLSTAT software for the analysis. The findings demonstrate that board size and firm size exhibit highly significant relationships with financial distress. Again, result on board independence reveals a statistically significant relationship with financial distress, underscoring the importance of independent directors in mitigating financial risks.

2.3.2 Board Risk Management and Financial Distress

Based on the little knowledge of the researcher, there are very few studies especially from 2019 upward that assessed the interplay between board risk management and financial distress worldwide. Few ones observed include; Beasley (2023) carried out a study titled; tempering financial reporting risk through board risk management of U.S. traded firms (2011-2014). Data for this study was obtained from 1000 firms through random sampling technique. Regression results indicate that there is a positive association between robust board risk management processes and two avenues for mitigating financial reporting risk. However, Sule and Meshack (2022) examined the effect of risk managements committee on the financial distress of listed industrial goods firms in Nigerian industrial (2011–2020). An ex-post facto research design was employed by the study. 10 industrial goods firms were finally selected as the sample for the study using a purposive sampling method. The regression results indicate that independence of risk management committee has no but insignificantly increases firm's financial distress likelihoods, while a higher number of female members in the risk management committee significantly reduce risk of financial distress. Therefore, it is important to highlight that there are very few studies especially from 2019 upward

that assessed the interplay between board risk management and financial distress worldwide. Though, this temporal gap during this critical period represents a substantial lacuna in contemporary governance literature.

2.3.3 Board Foreign Diversity and Financial Distress

The empirical evidence on the effect of board foreign diversity on financial distress is limited. Notwithstanding, the one observed is; Al-Naim et al. (2025) examined the influence of foreign, busy board members, and gender diversity on firm bankruptcy among companies listed on the Saudi Stock Exchange from 2015 to 2023. The panel data sample for this study comprised 128 listed firms. The results show a positive and significant association between the percentage of female board members, board busyness, board independence, board size, and the Altman Z-score, indicating that larger boards with more female, busy, and independent members have a lower bankruptcy risk. Conversely, the percentage of non-Saudi board members is negatively associated with the Altman Z-score. Similarly, Eze and Akaegbobi (2023) studied corporate leadership diversity's impact on financial distress in Nigerian manufacturing firms (2011–2020). Using an ex-post facto design with 55 sampled firms, panel least square regression results indicate that foreign directors' diversity positively influences the Altman's Z-Score of quoted manufacturing firms.

Moreover, study conducted by Ali et al. (2022) centered on does board diversity reduce the probability of financial distress among Chines firms listed on the Shanghai and Shenzhen Stock Exchange markets from 2010 to 2018. Sample of 12,366 observations from 1,374 firms were employed for the study. The findings of the study indicate that directors with different educational backgrounds, financial skills, and tenures can assist in reducing the probability of financial distress.

2.4 Theoretical Review

The interplay between corporate governance mechanisms and financial distress has been extensively studied, with various theories proposed by researchers to explain this dynamic. The researcher therefore found agency and stakeholder theories to be relevant for this study.

2.4.1 Agency Theory

According to Jenson and Meckling (1976) the agency relationship is seen in terms of a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf and which involves delegating some decision-making authority to the agent. The theory was developed to address these inherent tensions arising as a result of separation of ownership and operational control of the business between the principal and the agent. Based on agency theory, the connection between corporate governance mechanisms and financial distress can be explained through the lens of monitoring

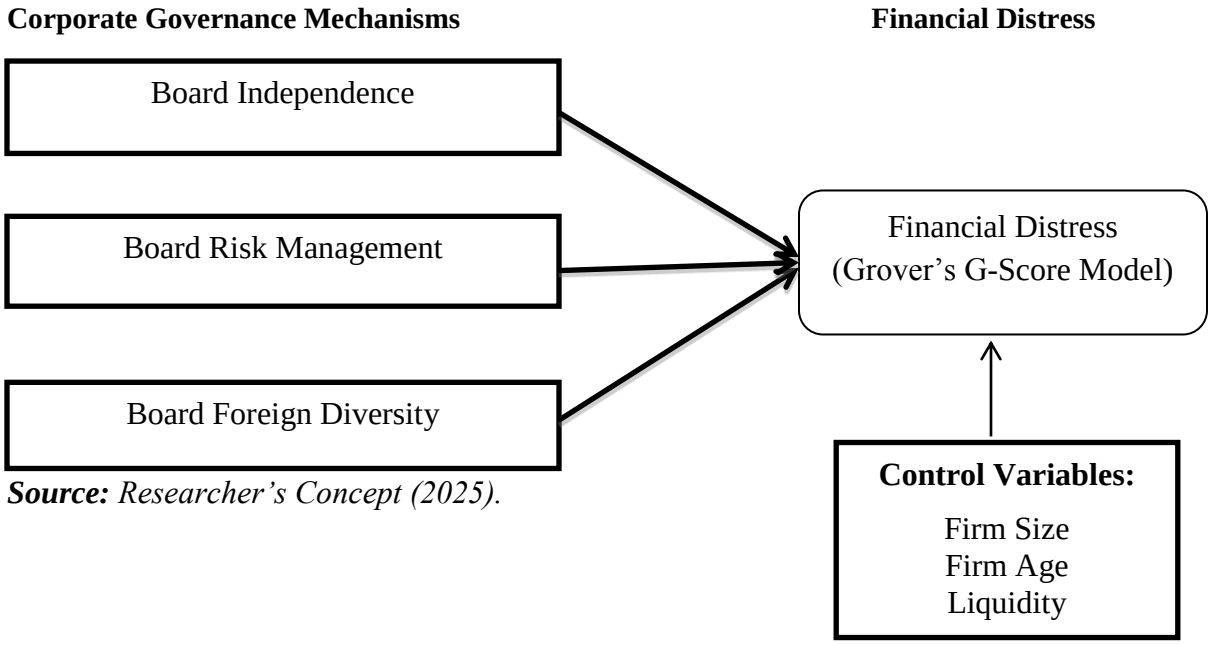
effectiveness. The theory explains that effective governance mechanisms reduce agency problems through enhanced monitoring and transparency while aligning managerial incentives with shareholders' value maximization objectives, consequently mitigating the probability of decisions precipitate financial distress. Specifically, study by Khalil et al. (2024) reveals that board independence serves as a crucial monitoring mechanism to reduce agency problem that can lead to a firm's financial distress. Agency theory submits that the independence of directors provide objective oversight and reduce the likelihood of managerial opportunism.

Further, Yousaf et al. (2024) added that board risk management directly address the agency problem by ensuring that management's risk-taking behavior aligns with shareholders' interests. Agency theory suggests that managers may engage in excessive risk-taking when their compensation is not properly aligned with firm performance, potentially leading to financial distress. Effective board-level risk oversight constrains such behavior and ensures risk management protocols are implemented. In addition, Eze and Akaegbobi (2023) highlights that foreign directors bring diverse expertise and market knowledge that can improve strategic decision-making and reduce the likelihood of management errors that lead to financial distress. This diversity enhances the board's monitoring capacity by providing varied viewpoints on strategic initiatives.

2.5 Research Framework

The research framework provides a diagrammatic representation of relationships among the variables being investigated. Figure 1 presents the framework, which consists of a dependent variable—financial distress (measured using Grover's G-Score), three independent variables (board independence, board risk management and board foreign diversity), and four control variables (firm size, firm age, and liquidity).

Figure 1.
Research Framework



Source: *Researcher's Concept (2025).*

Therefore, this study is grounded on agency theory, because the theory provides clearer theoretical framework for understanding how corporate governance mechanisms influence financial distress through the lens of monitoring effectiveness.

3.0 Methodology

This study employed a panel longitudinal research design because it repeatedly assesses participants over time to analyze changes and variable interactions (Keith, 2024). The population comprises all eighty (80) manufacturing firms listed on the Nigerian Exchange Group as at December 2024. A sample of forty (40) firms were drawn using a purposive approach focusing on firms that have complete annual reports and audited financial statements published on the Nigerian Stock Exchange from 2014 to 2024. This ensures data availability and company consistency in fulfilling public obligations. A STATA version 17.0 was employed to run the descriptive, correlation, regression estimations. The descriptive statistics captures the mean, median, standard deviation, minimum and maximum value of the data, while the correlation and regression shows the pattern and degree of influence between corporate governance mechanisms (board independence, board risk management and board foreign diversity) and financial distress. Additionally, some diagnostic tests (linearity, normality, heteroskedasticity, multicollinearity, and omitted variable test) and specification (fixed effect, random effect, hausman) tests were carried out to ensure fitness of the data and choose the best regression result. Financial distress was measured using the Grover's G-Score known for its

high predictive accuracy capacity in assessing financial distress, instead of the traditional models used in previous studies. According to Kembi et al. (2024), the G-Score achieves a 90.41% accuracy rate, outperforming Altman's (88.84%), Zmijewski's (82.80%), and Springate's (77.51%). The G-Score model categorized firms as financially distressed ($G \leq -0.02$), healthy ($G \geq 0.01$), or in a gray area (between these limits). The board independence was measured by the proportion of non-executive directors to the total directors developed by (Jensen & Meckling, 1976), while the board risk management was measured by the ratio of non-executive directors to total directors in the risk management committee established by (Fama & Jensen, 1983). Lastly, the board foreign diversity was measured by the total number of foreign directors/total number of directors on the board developed by (Shrader et al., 1997; Carter et al., 2003). The model also used three (3) control variables namely; firm size (log of total assets), firm age (current year – year of incorporation), and liquidity (current assets-inventory to current liabilities).

4. Results and Discussions

4.1. Descriptive Analysis

The various descriptive statistics summarizes the characteristics of the data including the observation, mean, median, standard deviation, minimum, and maximum values for each of the variables under study. The dependent variable is measured by Grover's G-Score model (G-SCORE), while the independent variables are board independence (BI), board risk management (BRM), and board foreign diversity (BFD). Also, the control variables proxies include; firm size (FS), firm age (FA), and liquidity (LIQ). Additionally, the analysis presents that the data is complete and there is no missing value issue with the total firm-year observations equals four hundred and forty (440) of forty (40) firms for eleven (11) years period (2014-2024). Table 1. illustrates these:

Table 1.
Descriptive Statistics

Variable	Mean	Median	Std. Dev.	Min	Max	Obs
Financial Distress	2.979	0.442	29.132	-70.742	354.059	440
Board Independence	0.650	0.667	0.127	0.250	0.917	440
Board Risk Management	0.339	0.000	0.428	0.000	1.000	440
Board Foreign Diversity	0.183	0.111	0.211	0.000	0.727	440
Firm Size	7.361	7.295	0.932	4.650	9.716	440
Firm Age	40.250	37.000	20.964	5.000	101.00	440
Liquidity	1.217	0.829	1.918	0.002	24.101	440

Field Survey (2025)

Table 1. shows that the GSCORE has a mean of 2.98 with the median being 0.04, standard deviation 29.13, minimum -70.74, and maximum being 354.06. The mean of 2.98 implies that on average, the sampled firms maintain a relatively healthy financial position above the distress threshold of -0.02. However, the high standard deviation (29.13) and wide range (minimum; -70.74, maximum; 354.06) demonstrate significant disparity in financial health across firms and time periods. Some firms experienced severe distress while others demonstrated exceptional financial strength. For the independent variables, BI presents a mean of 0.65 with the median being 0.67, standard deviation 0.13, minimum 0.25, and maximum being 0.92. The averages 65%, suggesting that approximately two-thirds of board members are non-executive directors. This closely aligns with the Nigerian Code of Corporate Governance recommendations. The relatively low standard deviation (0.13) indicates consistency in compliance across companies.

Further, BRM shows a mean (0.34) with the median (0.00), standard deviation (0.43), minimum (0.00), and maximum (1.00). The averages 34% with a median of zero, illustrating that many firms lack dedicated risk management committee with independent oversight. In addition, BFD presents a mean of 0.18 with the median being 0.11, standard deviation 0.21, minimum 0.00, and maximum being 0.73. The averages 18%, indicating limited international representation on Nigerian manufacturing boards. The maximum of 73% demonstrates that some firms actively pursue global expertise, while many maintain entirely domestic boards (minimum: 0%).

While for the control variables, FS shows a mean of 7.36 with the median being 7.30, standard deviation 0.93, minimum 4.65, and maximum being 9.72. The low value of the standard deviation (0.93) validates accuracy of the mean score (7.36) suggesting that the sampled firms have an average firm size of (7.36) measured by log of total assets. Additionally, FA has a mean (40.25) with the median (37.00), standard deviation (20.96), minimum (5.00), and maximum (101.00). The mean 40.25 suggesting that the sampled firms have operated for 40 years on average. Lastly, LIQ shows an average (1.22) with the median (0.83), standard deviation (1.92), minimum (0.00), and maximum (24.10). This translates moderate liquidity (mean: 1.22, median: 0.83).

4.2. Correlation

The correlation matrix shows the interconnections among the variables being investigated. Particularly, the matrix demonstrates the relationship between dependent variable (GSCORE) and independent variables; board independence (BI), board risk management (BRM), and board foreign (BFD) diversity, and control variables; firm size, firm age, and liquidity. Table 2 shows this.

Table 2.

Correlation Matrix

Variable	1	2	3	4	5	6	7	VIF
Financial Distress	1.000							
Board Independence	0.047	1.000						1.11
Board Risk Management	0.155	0.084	1.000					1.15
Board Foreign Diversity	0.125	0.194	0.020	1.000				1.38
Firm Size	-0.059	0.263	0.080	0.425	1.000			1.42
Firm Age	-0.145	-0.041	0.287	0.263	0.153	1.000		1.25
Liquidity	0.039	-0.001	0.029	-0.104	-0.044	-0.080	1.000	1.02

Field Survey (2025)

The first column of the Table 2 shows a weak positive correlation value of 0.047 between board independence and G-Score, indicating minimal direct relationship between board independence and financial distress in bi-variate analysis. Simply having independent board members does not seem to directly affect a company's financial distress. In addition, a positive correlation (0.155) is shown between financial distress and board risk management, suggesting that firms with risk management committees has the lower chances of experiencing financial distress likelihoods. Conversely, a moderate positive correlation (0.125) between financial distress and board foreign diversity manifests, indicating foreign directors may contribute modestly against firm's financial distress.

The matrix also reveals a very weak negative relationship between financial distress and firm size with correlation (-0.059). This means that bigger firms are generally a bit more financially stable, but the connection is not strong. Similarly, an inverse links was shown between financial distress and firm age with correlation value of -0.145. The negative correlation of -0.145 shows a weak inverse relationship, implying that older firms tend to experience less financial distress. Conversely, financial distress shows a positive association with liquidity (0.039). This positive correlation of 0.039 shows a very weak direct relationship, so firms with higher liquidity might experience a tiny bit more financial distress.

The second column exhibits a weak but positive association between board independence and board risk management (0.084). Similarly, a modest but meaningful positive links between board independence and board foreign diversity with correlation value of 0.194 was shown. Additionally, board independence illustrates a moderate positive relationship with firm size (0.263). Conversely, board independence reveals a very weak inverse

association with firm age (-0.041). Further, a negative correlation extremely close to zero between board independence and liquidity was shown (-0.001).

The third column reveals a weak positive links between board risk management and board foreign diversity with correlation value of 0.020. In addition, board risk management shows a weak positive correlation with firm size (0.080). Moreover, board risk management demonstrates a moderately positive association with firm age (0.287). Furthermore, a very weak positive extremely close to zero relationship between board risk management and liquidity (0.029) was shown. While the fourth column shows a moderately strong positive relationship between board foreign diversity and firm size (0.425). Similarly, board foreign diversity exhibits a positive moderate correlation value of 0.263 with firm age. However, a weak inverse correlation value of -0.104 was shown between board foreign diversity and liquidity.

The fifth column demonstrates a weak positive association (0.153) between firm size and firm age. Conversely, firm size shows a very weak inverse links (-0.104) with liquidity. While the sixth column illustrates a very weak negative relationship (-0.080) between firm age and liquidity. Lastly, the correlation matrix reveals the bi-variate relationships among variables and confirms the absence of multicollinearity problem through Variance Inflation Factor (VIF) column as all the VIF values were greater than financial distress threshold -0.002.

4.3 Board Independence, Board Risk Management, Board Foreign Diversity and Financial Distress

The pooled OLS result was chosen as specified by the Hausman (choosing between the fixed effect and random effect) and Poolability (choosing between the fixed effect and OLS) specification tests. The results reveal the extent of the relationship board independence (BI), board risk management (BRM), board foreign (BFD) diversity have on financial distress (GSCORE), as well as the pattern of the influence. The interplay in the model is controlled by firm size (FS), firm age (FA), and liquidity (LIQ). On the contrary, Table 3 presents the *coefficients* and alongside their *standard error (in brackets),* for the regression estimates of the pooled OLS, fixed effects and random effects regression:

Table 3:

Board Independence, Board Risk Management, Board Foreign Diversity and Financial Distress

Variables	Pooled OLS*	Fixed Effect	Random Effect
Board Independence (BI)	1.628	4.5786	3.9754
	(0.882)	(0.724)	(0.744)
Board Risk Management (BRM)	15.858	-2.7599	4.2411
	(0.000)***	(0.702)	(0.438)
Board Foreign Diversity (BFD)	34.636	15.1418	18.9642
	(0.000)***	(0.354)	(0.103)
Firm Size (FS)	-4.569	-53.1608	-49.6390
	(0.005)***	(0.005)	(0.002)
Firm Age (FA)	-0.351	-0.2866	0.0399
	(0.000)	(0.815)	(0.973)
Liquidity	0.476	-10.5113	-5.6487
	(0.493)	(0.062)	(0.069)
Specification Test:			
Poolability (P.Value)	0.792		
Hausman			0.158
R-Square	0.114		
Adj. R-Suare	0.102		
P.Value	0.000		
Obs	440	440	440

*** $p<.01$

The pooled OLS model demonstrates reasonable explanatory power with an R-squared of 0.114 (11.4%), indicating that the corporate governance mechanisms and control variables collectively explain approximately 11% of the variance in financial distress among Nigerian manufacturing firms. The adjusted R-squared of 0.102 (10.2%) confirms the model's robustness after accounting for the number of predictors. The F-statistic is highly significant (p = 0.000), validating that the model as a whole is statistically significant and that at least some independent variables meaningfully predict financial distress.

Table 3 presents that board independence has coefficient of 1.628 with a p-value of 0.882, indicating a positive and statistically insignificant relationship between board independence and financial distress. The lack of significance implies that merely having independent directors on the board does not automatically translate to reduced financial distress in

Nigerian manufacturing firms. Given the result in Table 3 above, hypothesis (H_{01}), which states that board independence has no significant effect on financial distress of manufacturing firms listed on the Nigerian Exchange Group was not rejected. Conversely, board risk management shows a coefficient of 15.858 with a highly significant p-value of 0.000. This suggests a strong positive and statistically significant association between board risk management and financial distress. Meaning that firms with dedicated risk management committees with independent oversight demonstrate substantially better financial positions. Considering the result in Table 3 above, hypothesis (H_{02}), which states that board risk management has no significant effect on financial distress of manufacturing firms listed on the Nigerian Exchange Group was rejected.

Similarly, board foreign diversity exhibits coefficient of 34.636 with a highly significant p-value of 0.000, revealing a robust positive link between board foreign diversity and financial distress. This substantial coefficient suggests that having foreign directors on the board significantly mitigates a firm's financial distress likelihood. Corresponding to the result in Table 3 above, hypothesis (H_{03}), which states that board foreign diversity has no significant effect on financial distress of manufacturing firms listed on the Nigerian Exchange Group was rejected. Considering this result foreign directors bring valuable international perspectives and expertise, their impact on financial distress prevent sufficiently robust in the Nigerian manufacturing context to reach statistical significance.

For the control variables, firm size presents a coefficient of -4.569 with a highly significant p-value of 0.005, indicating an inverse but statistically significant association between firm size and financial distress. Meaning that larger firms experience significantly lower financial distress likelihood. Additionally, firm age shows a negative coefficient of -0.351 and a highly significant p-value of 0.000, suggesting that older firms experience significantly lower financial distress risk. This is in line with the traditional view that maturity brings stability. However, liquidity has a positive coefficient of 0.476 with an insignificant p-value of 0.493, indicating that liquidity does not significantly influence financial distress.

4.4 Discussions

The findings that board independence has no significant effect on financial distress aligns with several recent studies while contradicting others, showing context-dependent governance effectiveness. This result is in line with Binwai and Mustapha (2024), who found board independence had no significant effect on financial distress likelihood among Nigerian consumer goods firms, and Hassan et al. (2023), who reported negative but insignificant effects in Pakistani non-financial firms. Similarly, Humairoh and Nurulita (2022) found board independence did not affect financial

distress in Indonesian manufacturing companies. However, these findings contrast with studies reporting significant effects. Kamau et al. (2023) found statistically significant negative relationships between board independence and financial distress among Nairobi Securities Exchange firms, while Khan and Kong (2022) reported that board independence significantly reduced distress probability in UK-listed firms. Begum et al. (2023) similarly found significant effects in Bangladeshi pharmaceutical firms. However, this inconsistency may reflect fundamental differences between developed and emerging markets. In developed economies with strong institutional frameworks, independent directors can effectively challenge management due to established norms, legal protections, and market discipline. Conversely, in emerging markets like Nigeria, characterized by concentrated ownership, weak enforcement, and relationship-driven business cultures, nominal independence may not translate to functional independence. The Nigerian manufacturing context—characterized by family-controlled firms, weak regulatory enforcement, and limited director training—may constrain board independence's impact on financial distress prevention.

This study's finding that board risk management demonstrates a highly significant positive relationship with financial distress (coefficient = 15.858, p = 0.000). This finding aligns with stakeholder and resource dependence theories, which emphasize that boards must effectively handle both external and internal uncertainties that create financial distress risks. This robust relationship suggests that firms with more independent risk management committees experience substantially mitigates financial distress outcomes, confirming that dedicated board-level risk oversight is a critical governance mechanism for preventing financial distress. The finding partially contradicts with limited empirical evidence. Sule and Meshack (2022) investigated Nigerian industrial goods firms and similarly found that risk management committee independence had no significant effect on financial distress, though they found gender diversity within risk committees did matter. On a similar note, Beasley (2023) found positive associations between robust board risk management and reduced financial reporting risk in US firms, suggesting effectiveness depends on genuine integration rather than superficial compliance.

The additionally positive and statistically significant association between board foreign diversity and financial distress (coefficient = 34.636, *p* = 0.000) represents the strongest governance effect observed in this study. This substantial coefficient suggests that foreign directors has meaningful contributions to mitigating firm's financial distress. This finding partially aligns with Eze and Akaegbobi (2023), who found that foreign director diversity positively influenced Altman's

Z-Score among Nigerian manufacturing firms, and Cho and Joo (2024), who reported that ethnic board diversity reduced bankruptcy risk in US manufacturing firms. Al-Naim et al. (2025) found mixed results in Saudi Arabia, where female and independent directors reduced bankruptcy risk while foreign directors showed negative associations with the Altman Z-score. Similarly, Ali et al. (2022) revealed that board diversity reduces financial distress likelihood among Chinese manufacturing firms. As Nigerian manufacturing firms increasingly pursue international expansion and face global competition, foreign directors may play a crucial role in mitigating firm's financial distress outcomes.

5. Conclusions and Recommendations

In accordance with the findings of this study, the paper concludes that board independence alone, does not significantly influence financial distress likelihood in Nigerian manufacturing firms. However, it is concluded that board risk management and board foreign diversity represent the most crucial governance mechanisms for mitigating financial distress among Nigerian manufacturing firms. Drawing from these conclusions, it is recommended that manufacturing firms should establish mandatory independent risk management committees and pursue strategic board internationalization, as represent the most promising paths toward preventing financial distress and long-term sustainability. While the investors and financial analysts should incorporate governance-weighted investment frameworks.The regulatory bodies (SEC, NXG, FRCN) should mandate board-level risk management committees, create incentives for board internationalization, develop early warning systems and integrate governance into industrial policy.

References

Abubakar, A. A. (2023). Corporate Failure: Are Listed Firms in Nigeria on the Verge of Demise? Analyzing Selected Food and Beverages Firms Using Springate's Model and Grover's Model.

Affes, W. & Jarboui, A. (2023). The Impact of Corporate Governance on Financial Performance: A Cross-Sector Study. *International Journal of Disclosure and Governance*.

Al-Naim, A. S., Aljughaiman, A. A., Almulhim, A. A., & Alosaimi, A. K. (2025) The influence of foreign, busy board members, and gender diversity on firm bankruptcy. *Cogent Business & Management*, 12(1), 2458158. https://doi.org/10.1080/23311975.2025.2458158

Ali, S., Ali, S., Jiang, J., Hedvicakova, M., & Murtaza, G. (2022). Does Board Diversity Reduce the Probability of Financial Distress? Evidence from

Chinese Firms. *Front. Psychol*, 13:976345. https://doi.org/10.3389/fpsyg.2022.976345

Ali, S., Rehman, R., Yuan, W., Ahmad, M. I., & Ali, R. (2022). Does Foreign Institutional Ownership Mediate the Nexus between Board Diversity and the Risk of Financial Distress? A Case of an Emerging Economy of China. *Eurasian Business Review, Springer; Eurasia Business and Economics Society*, 12(3), 553-581. https://doi.org/10.1007/s40821-021-00191

Anderson, K. & Smith, J. (2023). Leverage and Financial Distress: *New Evidence*

Anderso, R., Lee, J., & Thompson, S. (2021). Board Diversity and Global Strategic Decision-Making: A Multinational Study. *Journal of Academy Management*, 64 (3), 687-712.

Beasley, M., Blay, A., Lewellen, C. & McAllister, M. (2023). Tempering Financial Reporting Risk through Board Risk Management. Journal of Risk and Financial Management, 16(491). https://doi.org/10.3390/jrfm16120491

Bebchuk, L. A. & Weisbach, M. S. (2019). The State of Corporate Governance Research. *Review of Financial Studies*, 32 (1), 1-45.

Begum, M., Sarker, N. & Nahar, S. (2023). The Impact of Corporate Governance Attributes on Financial Distress among the Listed Firms in Pharmaceuticals Industry of Bangladesh. *International Journal of Economics and Financial Issues.*13 (6), 155-167. https://doi.org/10.32479/ijefi.15096

Bello, M. A. (2019). Ownership structure and stock market reaction to seasoned equity offerings by firms in Nigeria. *Sahel Analyst: Journal of Management Sciences*, 17 (4): 15-28. Available online @ www.saheljournalsonline.org.ng

Bello, M. A., Bala, A.K. & Falola, J.A. (2016). The Relevance of Financial Ratio Analysis in Predicting Business Failures in Nigeria: A Study of Selected Companies, Abuja Journal of Business and Management 2 (5), 21-28. Available online @ www.abujajournalofbusinessandmanagement.org.ng

Bello, M. A., Kurfi, A. K., & Tijjani, B. (2021). Corporate governance and stock market reaction to seasoned equity offering announcements by firms in

Nigeria. *Malaysian Management Journal*, *25*(4), 73–98. https://doi.org/10.32890/mmj2021.25.4

Binwai, P. & Mustapha, A. I. (2024). Corporate Governance Mechanisms and Financial Distress Likelihood: Evidence from Listed Consumer Goods Companies in Nigeria. *International Journal of Research in Commerce and Management Studies*, 6 (2), 110-125. https://doi.org/10.38193/IJRCMS.2024.6210

Bureau Labor Statistics (2022). Employment, Hours, and Earnings from the CES Survey.

Bravo-Urquiza, F., & Moreno-Ureba, E. (2021). Does Compliance with Corporate Governance Codes help to Mitigate Financial Distress?. *Research in International Business and Finance*, 55, 101344. https://doi.org/10.1016/j.ribaf.2020.101344

Candradewi, R. M. & Rahyuda, H. (2021). Effect of Financial Indicators, Corporate Governance and Macroeconomic Variables on Financial Distress of Manufacturing Companies listed in Indonesian Stock Exchange (IDX) for the Period 2016-2018. *Jurnal Ekonomi Kuantitatif Terapan*, 14 (1), 145-172.

Carter, D. A. et al. (2003). Corporate Governance, Board Diversity and Firm Value. *Financial Review*, 38 (1), 33-53.

Chen, Y., & Li, J. (2021). Foreign Directors and Corporate Innovation: Evidence from Chinese Firms.

Destatis (2022). Manufacturin Sector in Germany.

Ebimobowei, A, Godspower, D. & Odinakachi, E. E. (2024). Firm Attributes and Corporate Financial Distress of Listed Manufacturing Firms at the Nigeria Exchange Group, British Journal of Multidisciplinary and Advanced Studies: *Business and Management Sciences*, 5 (1), 16-44. https://doi.org/10.37745/bjmas.2022.0391

Etomi, G. & Parners (2019). Analysis of the Nigerian Code of Corporate Governance (NCCG) 2018.

Ezeani, E. J., Okonkwo, A. U., & Abdulrazaq, M. (2024). Foreign Board Membership and Corporate Outcomes in Nigeria: A Sectoral Analysis. *Journal of Corporate Governance in Emerging Economies*, 7(1), 22-39.

Eze, M. N. & Akaegbobi, G. N. (2023). Effect of Corporate Leadership Diversity on Financial Distress

of Selected Manufacturing Firms in Nigeria. *International Journal of Research Publication and Reviews*, 4 (6), 1-11. www.ijrpr.com

Fama, E. F. & Jensen, M. C. (1983). Agency Problems and Residual Claims. *Journal of Lwa and Economics*, 26 (2), 327-349.

Fiscienthar, Y. (2021). The Effect of Managerial Ownership, Institutional Ownership and Independent Commissioners on Financial Distress. *International Journal of Management and Commerce Innovations*, 9 (1), 411-422.

Galal, S. (2025). Contribution of the Industrial Sector to the Gross Domestic Product (GDP) in Africa as of 2023, by Country. Retrieved from: https://www.statista.com/statistics/1265152/industry-sector-as-a-share-of-gdp-in-africa-by-country/

Galal, S. (2025). Value Added of the Manufacturing Sector to the Gross Domestic Product (GDP) in South Africa from 2017 to 2024. Retrieved from: https://www.statista.com/statistics/1546889/value-added-of-manufacturing-to-gdp-in-south-africa/

Gao, H., Harford, J. & Li, K. (2020). Risk Management Independence and Financial Distress. *Journal of Accounting and Public Policy*, 39 (2), 153-172.

Hameed, R. A., Kurfi, A. K., & Bello, M. A. (2020). Determinants of financial performance: Evidence from lease manufacturing companies in Nigeria. *Gusau Journal of Accounting and Finance*, *1*(1), 1–10.

Hassan, M. & Kim, Y. (2020). Foreign Board Diversity and Firm Performance: Evidence from Emerging Markets. Corporate Governance: *An International Review*, 30 (2), 145-168.

Hassan, W. S., Gul, S., Naveed, Ahmed, M. & Tariq, M. (2023). Effect of Corporate Governance on Financial Distress: Evidence from Pakistan. *International Journal of Business and Management Sciencess*, 4 (2), 109-124. http://www.ijbms.org

Humairoh, F. & Nurulita, S. (2022). The Effect of Corporate Governance on Financial Distress. *Jurnal Riset Akuntansi Kontempore*, 14 (2), 237-242. https://www.researchgate.net/publication/366005948

Ibrahim, A. & Oloyede, O. (2020). Corporate Governance and Financial Distress in Nigerian Manufacturing Firms. *Journal of Business Ethics*, 163 (2), 257-273.

Ibrahim, Y., & Musa, A. (2023). The Role of Regulatory Frameworks in

Curbing Financial Distress: Evidence from Nigeria's listed Firms. *African Journal of Accounting, Economics, Finance and Banking Research*, 19(1), 33-48.

Ibrahim, M. T., & Yaya, S. A. (2022). Risk Management Practices and Distress Prediction in listed Nigerian Firms. *West African Journal of Business Research*, 10(4), 54–70.

Ikpesu, F., Vincent, O., & Dakare, O. (2022). Effect of Board Characteristics and Risk Management Practices on the Financial Performance of listed Non-Financial Firms in Nigeria. *Academia.edu*, 86914469.

Isayas, Y. N. (2021). Financial distress and its determinants: Evidence from insurance companies in Ethiopia. *Cogent Business and Management*, 8, 1951110. http://doi.org/10.1080/23331197 5.2021.1951110

Jensen, M. C. (1993). The Modern Industrial Revolution, Exit and the Failure of Internal Control Systems. *Journal of Finance*, 48 (3), 831-880.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Cost, and Ownership Structure. *Journal of Financial Economics, 3*, 305–360.

Jhunjhunwala, N. (2024). Board Independence and Financial Distress: Insights from India. *Journal of Economics and Finance*, 15 (5), 33-38. http://doi.org/10.9790/5933-1505063338

Kajola, S. O., Oyewole, S. A. & Umar, M. (2022). Risk Management Independence and Financial Performance: Evidence from Nigeria. *Journal of Risk and Financial Management*, 13 (2), 1-15.

Kamau, C. G., Oyoti, R. & Muzungu, B. K. (2023). Effect of Corporate governance on Financial Distress among the Firms Listed at Nairobi Securities Exchange. *South Sahara Multidisciplinary Journal*, 1 (1), 1-7.

Keith, K. D. (2024). Research Methods in Psychological Sciences: Quantitative Approaches (6th ed.). New York, NY: *Springer*.

Kembi, L. D., Morasa, J. & Wokas, H. R. N. (2024). Comparative Analysis of Models (Altman, Grover, Zmijewski, Springate) in Predicting Company Bankruptcy Potential in the Non-Cyclical Consumer Sector. The Contrarian: *Finance, Accounting and Business Research*, 3 (2), 180-191. https://doi.org/10.58784/cfabr.165

Khalil, M., Sultana, N., Kausar, A., & Shoukat, M. (2024). Nexus between Boardroom

Independence and Firm Financial Performance: Evidence from South Asian Emerging Market. *Humanities and Social Sciences Communications*, 11(597), 1-10. https://doi.org/10.1057/s41599-024-02952-3

Khan, N. & Kong, D. (2022). The Impact of Corporate Governance on Firm's Financial Distress: A Case Study of UK Based Firms. *Journal of Advanced Research in Economics and Administrative Sciences*, 3 (10), 2708-9320. https://doi.org/10.47631/jareas.v3i1.424

Klein, A. (2020). Board Independence and Firm Performance: A Meta-Analysis. *Journal of Management*, 46 (4), 1411-1434.

Lawal, A. I., Babajide, A. A., Somoye, R. O., & Ndako, U. B. (2022). The Impact of Board Independence on Firm Performance: Evidence from Nigeria. *Cogent Business and Management*, 9 (1), 2034954.

Mani, A., Samuel, O., & Okpanachi, J. (2023). Board Independence and Firm Financial Performance: Evidence from Nigeria. *International Journal of Research and Innovation in Social Science*.

Manufacturers Association of Nigeria (MAN) (2024). Retrieved from: https://nairametrics.com/2024/03/06/767-manufacturing-companies-shut-down-in-nigeria-350-billion-goods-unsold-in-2023

Manufacturers Association of Nigeria (2024). Retrieved from: https://www.manufacturersnigeria.org/?utm_source=perplexity

Masulis, R. & Zhang, E. (2020). Foreign Director Participation and Firm Performance in Global Market. *Journal of Financial Economics*, 136 (1), 160-182.

Ministry of Statistics and Program Implementation (2022). Retrieved from: http://mospi.nic.in/

Mohsni, S. Otchere, I., & Shahriar, S. (2021). Board Gender Diversity, Firm Performance and Risk Taking in Developing Countries: The Moderating Effect of Culture. *Journal of International Financial Markets, Institutions & Money*, 73 (C). https://doi.org/10.1016/j.intfin.2021.101360.

Muamar, Y. 2020. *Sektor Manufaktur RI 2019 Lesu, 11 Saham Otomotif Ini Merana*. CNBC Indonesia.

Nayan, A. B., Illias, M. R., Ishak, S. S., Abdul Rahim, A. H. B. & Morat, B. N. (2024). Evaluating the Efficacy of Financial Distress Prediction Models in Malaysian Public

Listed Companies. *International Journal of Advanced and Applied Sciences*, 11 (2), 1-7.

Nigerian Gross Domestic Product Report (Q4 2021).

Nigerian Stock Exchange (2023). Retrieved from: https://ngxgroup.com/exchange/trade/equities/listed-companies/

Nursal, E. Z., Kristanti, F. T. & Murti, G. T. (2023). Effect of Financial Ratios, Macroeconomics, and Corporate Governance on Financial Distress. *Asean International Journal of Business*, 2 (1), 85-96. https://doi.org/10.54099/aijb.v2i1.462

Ofori, E., Nyuur, R., & S-Darko, M. (2024). Board size, Board Independence, Board Expertise and the Financial Performance of listed Manufacturing Firms in Ghana: Does Board Commitment Play a Role? *ResearchGate Publication*, 379353789.

Olaniyan, O. & Omotola, A. (2020). Corporate Governance and Financial Distress in Nigeria's Manufacturing Sector: A Review. *Journal of Business and Economic Policy*, 7 (1), 45-58.

Rizaky, Z. A., & Dillak, V. J. (2020). Pengaruh rasio likuiditas, solvabilitas dan profitabilitas, dan umur perusahaan terhadap kondisi financial distress (studi pada perusahaan pertambangan di sub sektor pertambangan batu bara yang terdaftar di Bursa Efek Indonesia periode 2015-2018). *eProceedings of Management*, 7 (2). Google Scholar

Shrader, C. B., et al. (1997). Strategic Alliances and Foreign Market Entry: An Empirical Analysis. *Journal of International Business Studies*, 28 (2), 267-286.

Soesetio, Y. (2023). Good Corporate Governance Mechanisms and Financial Performance in Controlling Financial Distress. *International Journal of Business and Social Science*, 3 (1), 14-26. https://doi.org/10.54099/aijbs.v3i1.542

Statistical Analysis Software Market Report (2024). Statistical Analysis Software Market 2024-2031. Retrieved from: https://www.linkedin.com/pulse/statistical-analysis-software-market-2024-2031-rsqvc

Statistics South Africa, (2022). Retrieved from: http://www.statssa.gov.za/

Sule, S. Y. & Meshack, I. (2022). Effect of Risk Management Committee on the Financial Distress of Listed Industrial Goods Firms in Nigeria; Altman Z-Score Approach. *Global Research Journal of*

Business Management, 2 (1), 48-61.

The Guardian Newspaper's Report (2018). Nearly Half a Million UK Firms Facing Significant Financial Distress. Retrieved from: https://www.theguardian.com/business/2018/jan/17/nearly-half-a-million-uk-firms-facing-significant-financial-distress

Umar, M., Oyewole, S. A., & Ibrahim, A. A. (2020). Corporate Governance and Financial Distress in Nigeria: A Review of the Literature. *Journal of Business and Finance*, 14 (2), 1-18.

United Nations Industrial Development Organization (UNIDO) (2020). Industrial Development Report.

United States of America Bureau of Labor Statistics (2025). Industries at a Glance. Retrieved from: https://www.bls.gov/iag/tgs/iag31-33.htm?utm_source=perplexity

Walela, T., Mabuza, V. & Ngwenya, S. (2022). Corporate Financial Distress: A Study of its Causes, Consequences and Preventive Models.

Wang, Y. & Chen, C. (2020). Board Independence and Financial Distress: Evidence from China. *Journal of Corporate Finance*, 62 (101583).Wati, I. C. & Kasingku, F. J. (2022). Th

Theresa, S. & Pradana, M. N. (2022). Pengaruh Profitabilitas, Arus Kas, Good Corporate Governance dan Umur Perusahaan Terhadap Financial Distress. Jurnal EMBA: *Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 10 (1), 250-259. Google Scholar

Role of Corporate Governance and Financial Indicators in Predicting the Financial Distress. *Jurnal Ekonomi*, 11 (3), 1255-1267. http://ejournal.seaninstitute.or.id/index.php/Ekonomi

World Bank Group (2025). Manufacturing, Value Added (% of GDP) All Countries and Economies. Retrieved from: https://data.worldbank.org/indicator/NV.IND.MANF.ZS

Yahaya, O. A., & Yakubu, I. (2022). Risk committee's Influence on Enterprise Risk Management. *Journal of Risk and Financial Management*, 15 (4), 2-15. https://doi.org/10.3390/jrfm15020008x

Zhang, M., & Li, H. (2023). "Digital Transformation in Manufacturing Firms: A Comprehensive Framework for Industry 4.0 Implementation." *Journal of Operations Management*, 41(3), 156-178.