International Journal of Economics, Commerce and Management
United Kingdom ISSN 2348 0386 Vol. 12, Issue 1, Jan 2024

https://ijecm.co.uk/

DETERMINANTS OF FINANCIAL DISTRESS OF LISTED MANUFACTURING COMPANIES IN NIGERIA

Appah, Ebimobowei (PhD, FCA)
Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria
appahebimobowei@yahoo.com

Duoduo, Godspower
Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria

Eburunobi, Emmanuel Odinakachi (PhD)
Ignatius Ajuru University of Education, Port Harcourt, Bayelsa State, Nigeria
emmaeburu@gmail.com

Abstract

Corporate financial distress has been a major challenge of listed companies globally due to poor profitability and liquidity management strategies. The central objective of this study is to empirically investigate the determinants (profitability, leverage, liquidity, tangibility, firm size and operating capacity) on financial distress (Springate S Score) on listed manufacturing firms in Nigeria from 2018 to 2022. The study anchored on signaling theory and ex post facto research design was used with a target population of sixty (60) listed manufacturing firms while thirty (30) was used for analysis based on data availability. The study obtained secondary data from the published financial statements of sampled companies and the data collected were analysed using descriptive statistics, correlation matrix and generalized methods of moments. The regression analysis indicated that profitability positively and insignificantly influences corporate financial distress while financial leverage, tangibility, liquidity, firm size and operating capacity negatively and insignificantly affect corporate financial distress of listed manufacturing firms in Nigeria from 2018 to 2022. The study generally concluded that corporate firm characteristics such as profitability, financial leverage, tangibility, liquidity, firm size and operating capacity

impact on the financial distress of listed manufacturing firms in Nigeria. Consequently, it was suggested amongst others that corporate managers of listed firms should use the various determinants of financial distress to detect early signs of financial distress and take innovative actions to prevent the occurrence of liquidation.
Keywords: Profitability, Leverage, Tangibility, Liquidity, Firm Size, Springate S Score

INTRODUCTION

Financial distress has gained international attention in the recent past as revealed by several empirical and theoretical literatures focusing on the subject. This attention calls for an in-depth analysis of the causes of financial distress and its relevance to firms in particular and government in general. According to Walela et al (2022), empirical studies across the globe that have investigated financial distress include investigations on early warning signals, theories of financial distress, comparisons made between distress models before and after collapse, audit quality and financial distress, operating and cost of financial distress, examination of credit risk and financial distress etc. Hence, financial distress is a global problem for firms and government to handle. However, despite the problem of financial distress internationally, it is still a subject that remains unsolved globally. Walela et al (2022) noted that corporate financial distress are situations that make companies the inability to meet maturing financial obligations to their creditors and may result in corporate bankruptcy and restructuring. According to Isayas (2021), a financially distressed firm is when the operating cash flows of the firm is insufficient in meeting the current financial obligations of the firm, thus imposing the arrangements of mergers and acquisition, and other forms of capital reconstructions. Also Njogu et al (2017) maintained that corporate financial distress of firms can be categorized into the decline in financial performance, failure of the firm, insolvency and financial default. Hence, studies have revealed that firm characteristics has been a major factor responsible for the high level of corporate financial distress of firms (Kristanti et al., 2016; Devji & Suprabha,2016; Idrees & Qayyum, 2018; Ikpesu & Eboiyehi, 2018; Wesa & Otinga, 2018; Rafatnia, et al 2020; Susilowati et al, 2020).

There are several factors that contribute to the issue of corporate financial distress. Isayas (2021) stated that firm size is one of such determinants among others including liquidity, leverage, profitability, managerial among others. Also several other studies globally have identified determinants that contribute to financial distress ranging from managerial (Njogu et al, 2017), profitability, liquidity, leverage, free cash flow, accrual, interest rate, GDP and inflation (Rafatnia et al, 2020), liquidity, leverage, profitability, operating capacity, sales growth, firm size, institutional ownership and managerial (Susilowati et al, 2020), liquidity, profitability, firm size, leverage

(Ikpesu, 2019), liquidity, leverage, capital structure and asset structure (Wesa and Otinga (2018), leverage, debt maturity, tangibility, firm size and sales growth, market to book ratio and return on assets (Abdioglu (2019), liquidity, profitability, leverage, sales growth, operating capacity and firm size (Heniwati and Essen (2020), credit risk, currency risk, interest rate risk, liquidity risk, and firm size (Walela et al, 2022). Susilowati, et al (2020) maintained that firm characteristics factors responsible for corporate financial distress include liquidity, leverage, profitability, firm size, share price, revenue growth, operating capacity, operating cash flow, age etc. Financial distress can be investigated in several dimensions, basically in its financial determinants.

The empirical studies on firm attributes and corporate financial distress presented diverse and disaggregated results. Studies such as Rafatnia et al (2020); Susilowati, et al (2020); Heniwati and Essen (2020); Ikpesu (2019); Abdioglu (2019); Gathecha (2016); Ikpesu and Eboiyehi (2018); Tesfamariam (2014); Kristanti et al (2016) showed different outcomes. Rafatnia et al (2020) study indicated that profitability, liquidity, leverage, interest rate, cash flow, accruals, and GDP were statistically significant in distinguishing distressed from non-distressed firms across sectors; Susilowati et al. (2020) research disclosed that leverage has a positive effect on financial distress; profitability, operating capacity, and firmsize have a negative effect on financial distress; while liquidity, sales growth, and institutional and managerial ownership have no effect on financial distress; Ikpesu (2019) investigation revealed a positive relationship between profitability, leverage and firm size on financial distress while liquidity, revenue growth and share price showed an inverse relationship with financial distress; Abdioglu (2019) study showed that firm size, return on equity, asset tangibility variables are reported as effective on the association between leverage and financial distress, return on equity and asset tangibility has impacts on the relation between financial distress and debt maturity. It remains unclear the explanations empirical results often show varying outcomes. These conflicting outcomes reveal that firm characteristics and corporate financial distress is still inconclusive. The inconclusive outcomes have made the debate open to future research. The gap in terms of time, location, literature and methodology are also a contributory reason to the differences in the various outcomes of the effect of firm characterisitcs and corporate financial distress of listed firms. Hence, this main objective of this study is to empirically investigate determinants of corporate financial distress of listed manufacturing firms at the Nigeria Exchange Group from 2018 to 2022. The specific objectives are:

1. to investigate the relationship between profitability and Springate S Score of listed manufacturing firms in Nigeria;
2. to evaluate the relationship between financial leverage and Springate S Score of listed manufacturing firms in Nigeria;

3. to determine the relationship between tangibility and Springate S Score of listed manufacturing firms in Nigeria;
4. to investigate the relationship between liquidity and Springate S Score of listed manufacturing firms in Nigeria;
5. to determine the relationship between firm size and Springate S Score of listed manufacturing firms in Nigeria;
6. to evaluate the relationship between operating capacity and Springate S Score of listed manufacturing firms in Nigeria.

The following research questions were analysed in this study:

1. What is the relationship between profitability and Springate S Score of listed manufacturing firms in Nigeria?
2. What is the relationship between financial leverage and Springate S Score of listed manufacturing firms in Nigeria?
3. What is the relationship between tangibility and Springate S Score of listed manufacturing firms in Nigeria?
4. What is the relationship between liquidity and Springate S Score of listed manufacturing firms in Nigeria?
5. What is the relationship between firm size and Springate S Score of listed manufacturing firms in Nigeria?
6. What is the relationship between operating capacity and Springate S Score of listed manufacturing firms in Nigeria?

The following null hypotheses were tested in this study:

Ho_1: Profitability does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

Ho_2: Financial leverage does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

Ho_3: Tangibility does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

Ho_4: Liquidity does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

Ho_5: Firm size does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

Ho_6: Operating capacity does not positively and significantly affect Springate S Score of listed manufacturing firms in Nigeria.

LITERATURE REVIEW

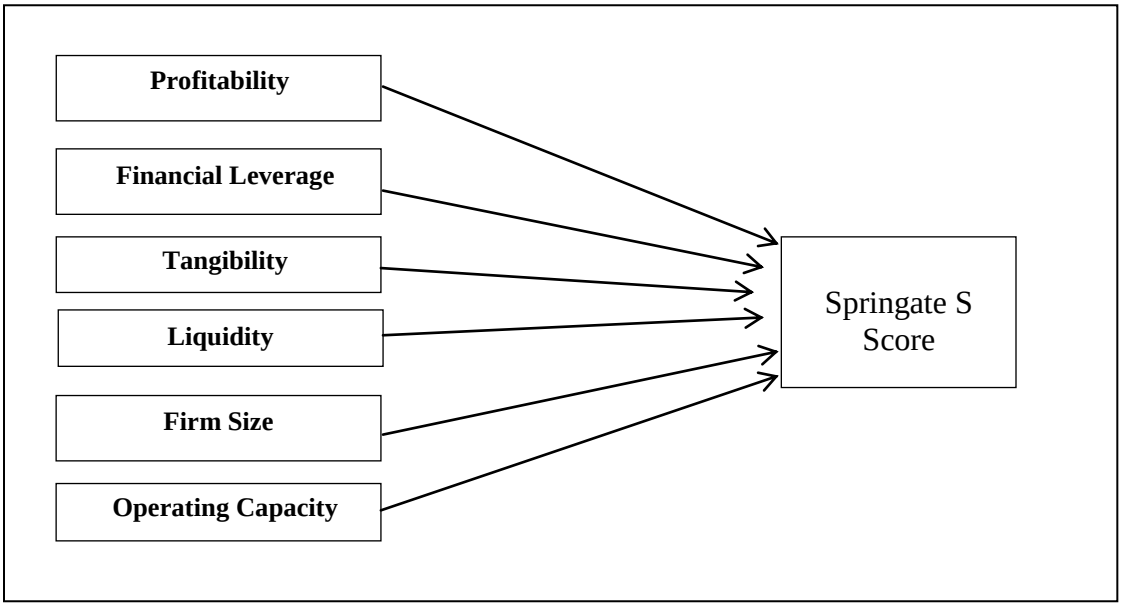

Figure 1: Conceptual Framework of Firm Attributes and Financial Distress

Firm Attributes

This study adopted the following dimensions as firm attributes for this study:

Profitability: Profitability of companies influences the corporate financial distress. According to Heniwati and Essen (2020), profitability is an important element used by investors to analyse firm's advancement in financial performance in terms of profit-making. Profitability has been measured in previous empirical studies on corporate financial distress as return on assets (ROA). Return on asset shows how profitable a company's assets are in generating revenue. Return on assets (ROA) is a ratio that measures a company's earnings before interests and taxes (EBIT) relative to its total assets (Sani et al, 2019). It is defined as the ratio between net income and total average assets, or the amount of financial and operational income a company receives in a financial year as compared to the average of that company's total assets (Banda, 2019; Sani et al, 2019). The ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings. EBIT is used instead of net profit to keep the metric focused on operating earnings without the influence of tax or financing differences when compared to similar companies.

The greater a firm's earnings in proportion to its assets (and the greater the coefficient from this calculation), the more effectively that firm is said to be using its assets. The ROA, expressed as a percentage or decimal, provides insight into how much money is generated from each naira invested into the organization. This allows the organization to see the relationship

between its resources and its income, and it can provide a point of comparison to determine if an organization is using its assets more or less effectively than it had previously. In circumstances where the company earns a new naira for each naira invested in it, the ROA is said to be one, or 100 percent (Urhoghide & Omolade, 2017).

It is indispensable information for investors as a source to investigate the business development in profit-making. The higher level of the firm's profitability will give a positive signal to investors, meaning that they will have a positive return from their investments. Prior studies (Murtadha, et al, 2018; Thim et al, 2011) found that profitability ratio is negatively influenced by financial distress. The studies of (Boubaker, at al., 2018; Dalci., 2018; Charalambakis, & Garrett, 2019; Dary & James., 2019) revealed a positive association between profitability and financial distress.

Financial Leverage: This is a company's level of external borrowing used in financing its short and long term financial deficit (Al-Najjar, 2017). It can be employed to measure the ability of firm to meet its long term financial obligations (Putri, et al, 2018). It is the approach which contains the application of loan in the procurement of investment with the objective that the asset's after-tax profit and asset price appreciation will compensate the cost of borrowing cost (Imeopkaria et al, 2021). According Afolabi et al (2019), financial leverage determine the amount of equity and debt capital utilized by a firm to finance appropriate investment opportunities. Financial leverage can be employed to extent a firm can meet its long period financial requirements (Solanke, 2020). Grossman and Hart (2017) noted that the contributions of equity and debt with other financial assets determine financial leverage. Financial leverage is also another firm characteristic employed by previous studies to investigate leverage and corporate financial distress. A number of previous studies on financial leverage and corporate financial distress have produced mixed findings. The study of Ahmad (2013) revealed that corporate financial distress will increase when there is an increase in financial leverage of companies. Similarly, studies by Gathecha (2016) also showed that the relationship between corporate financial leverage and financial distress is positive. However, studies conducted by Kristanti et al., (2016) revealed that the relationship between leverage and financial distress is negative. However, findings by Baimwera and Murinki (2014) revealed that leverage had no significant influence on corporate financial distress.

Tangibility: This refers to the number of tangible assets in a firm's statement of financial position. It is the cost of aggregate outlay made by an organisation in non-current assets and is typically measured by dividing the amount of total non-current assets in the statement of financial position by the amount of the total assets of the entity (Oeta et al, 2019; Nangih & Onuora, 2020). The concept of tangibility demonstrates the ratio between non-current assets

and the total assets of the firm. It is of countless significance, not merely as it influences the financial condition of the firm, nonetheless similarly influences the assets efficacy and its performance. Tangible assets are the physical assets such as property, plant and equipment. Firms with low and small tangible assets should borrow less because they don't have the capacity to meet constant debt payment contracts which may negatively impact on their financial distress (Maina & Ishmail, 2014). According to Akintoye (2010), companies that retain more tangible assets as their investments have the capacity to manufacture more products that are transformed into sales which in turn improves their profitability and reduces their level of financial distress. The study of Wesa and Otinga (2018) of listed companies on the Nairobi Stock Exchange indicated that tangibility positively and insignificantly influences corporate financial distress of listed companies.

Liquidity: Liquidity is a vital element for any organization and a short fall in liquidity would result into corporate failure because it will not be in a position to settle its obligations as at when due whereas having too much liquidity means making sub optimal investment decisions which in the long term if left unchecked can erode the gains that could have been made if the funds had been invested. Liquidity is the point to which current liabilities outstanding for payment within one financial year can be paid from the total current assets of the firm without disturbing the functioning procedures of the business (Mohammed & Yusheng, 2019; Etim et al, 2020). The authors further noted that liquidity of a business demonstrates the soundness of the business in a short period and if correctly managed, ought to influence positively on the financial performance. Shimenga and Miroga (2019) opined that liquidity is the ability of an organisation to meet their existing liabilities as they fall due. Accordingly, liquidity comprises placing and controlling present resources and current liabilities in a manner that takes out the danger of failure to meet temporary obligations on one hand and break away from uncontrolled curiosity in these benefits before again. Therefore, a firm with low liquidity level may be unable to meet its current obligation when it falls due which may expose it to financial distress (Ong'era, et al., 2017). Wesa and Otinga (2018) study in Kenya found that liquidity positively and significantly influence corporate financial distress of listed companies on the Nairobi Stock Exchange. Prior studies conducted by Praowo et al. (2010), Tesfamariam (2014), Gathecha (2016), and Kristanti et al., (2016) reveal that liquidity has a positive relationship with corporate financial distress. The study conducted by Baimwera and Murinki (2014) disclosed that liquidity does not affect corporate liquidity.

Firm Size: This is the quantity and diversity of the productive ability and capacity possessed by an organization or the diversity and amount of services a company ought to offer simultaneously to consumers (Mule et al, 2015). It denotes to how small or big the firm and constitutes one of

the most important determinants organisation's financial robustness. The relevance of corporate firm size on financial distress is well documented. According to Muigai and Muriithi (2017), corporate firm size influences the relationship between financial distress and capital structure of Kenyan firms. The authors further stated that the size of a firm affects corporate financial distress and capital structure. The study of Tinoco and Wilson (2013) documented that the firm size has an opposite relationship with financial distress. In a study conducted by Kristanti et al. (2016) disclosed that the size of a firm does not influence corporate financial distress.

Operating Capacity: Operating capacity evaluates the firm's dimensions to carry out daily activities. The higher the firm's asset turnover rate shows that the firm has efficiently employed its assets in producing sales revenue. It means that the firms' management attempts to maximize their performance to decrease financial distress. Firms with fruitless sales, thus less in generating income, will tend to experience financial hitches due to a lack of asset turnover (Heniwati & Essen, 2020). If firms could effectively and efficiently manage their assets, they will receive a short-term return, which usually can be calculated by total asset turnover. Low total asset turnover shows that firms cannot effectively and efficiently manage their assets in their operational activities, thus resulting in low performance, and eventually leading to corporate financial distress. It is the level of efficiency or effectiveness of the firm's operating activities. This is measured as the total asset turnover ratio. High total asset turnover shows the effectiveness of the firm in using assets to generate sales well. This is a signal of good news for investors because the effectiveness of the use of assets to generate sales is expected to provide greater profits for the firm and show that the financial performance achieved by the firm is getting better so that the possibility of financial distress is getting smaller. Widhiari and Merkusiwati (2015) documented that operating capacity has a negative influence on financial distress. In a similar study conducted by Hanifah and Purwanto (2013), operating capacity also has a negative consequence on corporate financial distress.

Concept of Corporate Financial Distress

Corporate financial distress is a situation in which a company experiences a decline in financial conditions before bankruptcy. According to Wesa and Otinga (2018), corporate financial distress means that financial difficulties experienced by firms in maintaining their normal operations. The authors further noted that these are events preceding and including bankruptcy. This is a condition when a company cannot meet (or has difficulties paying off) its financial obligations to its creditors. It occurs when operating cash flows are not sufficient to satisfy current obligations and firms are forced to take corrective actions. Abdioglu (2019) argued that financial distress takes place due to macro or firm specific factors. The author

further argued that economic factors such as economic recessions, implementation of tight monetary policy, the decrease in the stock market index are some elements that escalates the probability of financial failure. In addition, manufacturing defect, unsuccessful projects, the problems between employee and employer, higher level of leverage and overgrowth are among the firm specific factors that affect financial failure (Abdioglu, 2019). Handriani et al (2021), financial distress is a situation in which a business suffers a deterioration in financial conditions before bankruptcy. The financial complications of firms can be credited to three broad expressions used in finance and accounting research: failure, bankruptcy, and default. Failure occurs when the proportion of yield on an outlay is not in agreement with financed capital, or income that is not sufficient to cover costs, where the yield on average outlay is persistently below the cost of capital. The authors further noted that financial distress happens earlier than bankruptcy of a firm. The current study employs Springate S Score which is defined as follows:

S Score=1.03*X1+3.07*X2+0.66*X3+0.4*X4

Where:

X1 = Working capital/Total assets,

X2 = Earnings before Interest and Taxes/Total Assets,

X3 = Earnings before taxes/ short term liabilities,

X4= Sales/ Total Assets

If S Score of a firm is below 0.862, the probability of financial distress and bankruptcy is higher. However, if S Score is above 0.862, financial distress probability is lower.

Theoretical Review

Signaling Theory: This study is anchored on signaling theory ascribed to Akerlof (1970), Spence (1973) that explain the behaviours concerning information asymmetry in the labour market. This theory state the significance of information when two parties are involved. Menicucci and Paolucci (2018) argued that signaling theory is vital for investigating disclosure when two parties have dissimilar information. The authors provided that one party must decide whether and how to signal the information and the other party must decide how to interpret the signal. Connelly, et al (2010) explicate that this theory is valuable in the raising of alarm when there is information asymmetry. Tang et al (2012) argued that the signaling theory shows the signals from corporation actions as a reflection of reputation. This theory reveals how information asymmetry can be reduced by signaling the informed party to others. Bebchuk and Weisbach (2010), highlighted that this theory also indicates that organisations' insiders are more informed about the firm than outsiders. Scott (2014) noted that investors and other outsiders of the firm may consider actions of managers as signals. The signals found in actions and affairs

of a firm inform the nature of opinions that the participants of the business form to examine the performance and value of a company (Arowolo, 2016). Moratis (2018) maintained that signaling theory provide information that could be applied by individuals and organisations looking for to form impressions about the firm, its values and its overall future direction. Connelly, et al (2010 stated that signaling theory predominantly examines the thoughtful communication of positive information in an effort to carry positive corporate qualities that epitomize indiscernible fundamental potentials and can be a powerful clarification for the conduct of companies and their sub-systems and their configurations of communication.

Empirical Review

Table 1: Summary of Empirical Studies

S/N	Authors	Topic	Variables Used	Methodology	Findings
1.	Rafatnia et al (2020)	Financial distress prediction across firms.	Independent variables consisted of profitability, liquidity, leverage, free cash flow, accrual, interest rate, GDP and inflation while dependent variable was financial distress	The study employed ex post facto and correlational research designs from a sample of 300 firms listed on Teheran Stock Exchange. The secondary data was obtained from the published financial reports and statistical bulletins. Logistic regression and decision tress was used for data analysis.	The result disclosed that profitability, liquidity, leverage, interest rate, cash flow, accruals, and GDP were statistically significant in distinguishing distressed from non-distressed firms across sectors.
2.	Susilowati et al. (2020).	The determinants of financial distress: An empirical investigation of Indonesian Firms.	The independent variables consisted of liquidity, leverage, profitability, operating capacity, sales growth, firm size, institutional ownership and managerial ownership while dependent variable financial distress employed a dummy variable of zero and one	The study utilized expost facto and correlational research design. The population consisted of manufacturing firms listed on the Indonesian Stock Exchange from 2014 to 2017. The study used purposive sampling technique and secondary data. The data collected was analysed using logistic regression.	The findings from the logistic regression analysis disclosed that leverage has a positive effect on financial distress; profitability, operating capacity, and firm size have a negative effect on financial distress; while liquidity, sales growth, and institutional and managerial ownership have no effect on financial distress.

3.	Ikpesu (2019)	Firm specific determinants of financial distress: Empirical evidence from Nigeria	The independent variable include liquidity, profitability, firm size, leverage while dependent variable financial distress using Altman Z Score with control variables of revenue growth and share price	The data employed ex post and correlational research design. The population consisted of all listed firms on the Nigeria Exchange Group from 2010 to 2017 while a sample of 17 firms was used. The study used secondary data sourced from the financial reports of sampled firms. The data were analysed using econometric models.	The findings revealed a positive relationship between profitability, leverage and firm size on financial distress while liquidity, revenue growth and share price showed an inverse relationship with financial distress.
4.	Wesa and Otinga (2018)	Determinants of financial distress among listed firms at the Nairobi Stock Exchange	The independent variable of the study was liquidity, leverage, capital structure and asset structure while financial distress was Altman Z Score	The study employed descriptive survey research design. The population consisted of 65 firms listed on the Exchange and 63 firms were used as sample. Secondary data was collected from the financial statement of sampled firms. The data collected was analysed using univariate, bivariate and multivariate analysis.	The result of the findings disclosed that liquidity negatively and significantly influence financial distress while financial leverage and capital structure positively and significantly influence financial distress. Also asset structure positively and insignificantly influences financial distress.
5.	Abdioglu (2019)	The impact of firm specific characteristics on the relation between financial distress and capital structure decisions.	The independent variables were leverage, debt maturity, tangibility, firm size and sales growth, market to book ratio and return on assets while dependent variable of financial distress was measured with Altman Z Score and Springate S Score.		The result of the study revealed that firm size, return on equity, asset tangibility variables are reported as effective on the association between leverage and financial distress. Return on equity and asset tangibility have impacts on the relation between financial distress and debt maturity.
6.	Heniwati and Essen (2020)	Which retail firm characteristics impact on financial distress?	The independent variable consist of liquidity, profitability,	The study used descriptive research design and a population of 28	The findings show that profitability and leverage have significant influenced

			leverage, sales growth, operating capacity and firm size while the dependent variable used Altman Z score.	retail companies listed on the Indonesian Capital Market from 2014 to 2018. The study employed secondary sources of data collection from the financial statement while econometric models were used for data analysis.	on financial distress. Moreover, predictor liquidity, sales growth, operating capacity and firm's size have no relationship with financial distress.
7.	Walesa et al (2022)	Financial risk, firm size and financial distress of listed firms in Kenya.	The independent variable consist of financial risk such as credit risk, currency risk, interest rate risk, liquidity risk and firm size while the dependent variable financial distress using	The study used descriptive and explanatory research with positive research philosophy and secondary data for the purpose of data collection. Descriptive statistics and inferential statistics was used for data analysis.	The findings revealed that firm size moderates the relationship between financial risk and financial distress of listed firms in Kenya.
8.	Widhiadnyana & Ratnadi (2019)	The study investigated corporate governance and intellectual capital on financial distress in Indonesia	The independent variable consist of managerial ownership, institutional ownership, proportion of independent commissioner and intellectual capital while the dependent variable consist of financial distress using Z score	The study used ex post facto research design and the population consisted of all the listed manufacturing firms in Indonesia with non-probability sampling technique of saturated sampling technique. The study used secondary data collected from the sampled firms from 2014 to 2016 while descriptive and inferential statistics was used for data analysis.	The result from the regression analysis indicated that managerial ownership, institutional ownership and intellectual capital negatively and significantly affect financial distress while proportional of independent commissioners positively and significantly influence financial distress of listed firms in Indonesia.
9.	Issak & Oluoch (2023)	This study examined firm characteristics and financial distress in Kenya	The independent variable of firm characteristics consisted of firm size, turnover, leverage and profitability while the dependent variable of financial distress consist of B ratio.	The study adopted quantitative causal research design and a target population of thirteen (13) manufacturing firms while ten (10) was used for data analysis. The study used secondary data from the financial reports of sampled firms and descriptive	The findings from the panel regression analysis indicated that firm size, turnover and profitability negatively and significantly impact on financial distress while leverage positively and significantly affects financial distress of listed

				and inferential statistics was used for data analysis.	manufacturing firms in Kenya.
10.	Zelie (2019)	The study analysed determinants of financial distress in insurance firms in Ethiopia.	The study used profitability, liquidity, leverage, efficiency and firm size as independent variables while Altman Z scores as indicator of financial distress for dependent variable	This study adopted quantitative research design and a target population of 17 insurance companies while only 9 was sampled due to data availability. Secondary data was collected from annual reports of sampled firms while the secondary data was analysed using descriptive and inferential statistics from 2009 to 2018.	The findings from the pooled regression analysis revealed that profitability positively and significantly affect financial distress of insurance firms in Ethiopia; liquidity positively and significantly affect financial distress of insurance firms in Ethiopia; efficiency and firm size positively and insignificantly affect financial distress while leverage negatively and significantly impact on the financial distress of insurance firms in Ethiopia.

Source: Desk Research (2023)

METHODOLOGY

Research Design

This study was designed to explain the relationship between firm characteristics and financial distress of listed consumer and industrial goods firms listed on the Nigeria Exchange Group (NGX). The study adopted a combination of ex post facto and correlational research designs. Ndiyo (2005) observe that ex post facto research design is a systematic empirical study in which the researcher does not in any way control or manipulates independent variables because the situation for study already exists or has already taken place (Appah, 2020). Appah (2020) contend that correlational design shows the relationships between independent and dependent variables. These research designs were considered appropriate because they facilitate a comprehensive perspective of the major research questions and hypotheses in the study.

Population and Sampling Technique

The target population consists of all the consumer and industrial goods companies listed on the Nigerian Exchange Group (NGX) as at 31 December, 2022. This study utilizes simple random sampling technique in selecting sample due to availability and completeness of data for

the period under review. Therefore, the target population consists of all the sixty (60) manufacturing companies listed on the Nigeria Exchange Group (NGX). This study utilizes convenience sampling technique in selecting sample due to availability and completeness of data for the period under review. The sample size of thirty (30) companies was used for data analysis.

Methods of Data Collection

The data for this study was sourced from the published annual reports and accounts of sampled companies for the period 2018 to 2022. These periods was chosen by the researchers to make the study more current and up to date in terms of the number of manufacturing companies listed on NGX.

Variable Measurement

The dependent variable for this study is financial distress and the independent variable consists of firm characteristics (Firm size, liquidity, profitability, leverage, tangibility and operating capacity. The variables for this study were measured using appropriate dimensions on the basis of prior studies as follows:

Table 2: Measurement of Variables

Variables	Type of Variable	Symbol	Measurement	Sources
Altman Z score	Dependent Variable	AZS	1.2*X1 + 1.4*X2+ 3.3*X3 + 0.6*X4+1.0*X5	(Abdioglu, 2019). Handriani et al (2021),
Springate S Score	Dependent Variable	SSS	1.03*X1+3.07*X2+0.66*X3+ 0.4*X4	(Abdioglu, 2019). Handriani et al (2021); Wesa and Otinga (2018); Heniwati & Essen (2020)
Profitability	Independent Variable	ROA	PAT/Total Assets	Dalci., 2018;Charalambakis, & Garrett, 2019; Dary & James., 2019); Wesa and Otinga (2018); Heniwati & Essen (2020)
Financial Leverage	Independent Variable	FIL	Total Debt/Total Equity	Putri, et al, (2018); Grossman and Hart (2017),
Tangibility	Independent Variable	TAN	Non-current assets/Total Assets	Wesa and Otinga (2018)
Liquidity	Independent Variable	LIQ	Current Assets/Current Liability	Wesa and Otinga (2018); Heniwati & Essen (2020)
Operating Capacity	Independent Variable	OPC	Sales/Total Assets	Wesa and Otinga (2018); Heniwati & Essen (2020)
Firm Size	Independent Variable	FIS	Natural Log of total assets	Heniwati & Essen (2020)

Model Specification

Gujarati & Porter, (2009) stated that model specification is the determination of the endogenous and exogenous variables to be included in the model as well as the a priori expectation about the sign and the size of the parameters of the function. The following model was developed based on the study variables:

Corporate Financial Distress = f(Determinants of Distress) ……..... (1)

$SSS = \beta_0 + \beta_1 ROAit + \beta_2 FIL_{it} + \beta_3 TANR_{it} + \beta_4 LIQ_{it} + \beta_5 OPC_{it} + \beta_6 FIS_{it} + \varepsilon$……..... (2)

$B_0 - \beta_6$ are the coefficients of the regression, while ε is the error term capturing other explanatory variables not explicitly included in the model. The subscript, i, indicates the cross-sectional dimension of the panel data while the subscript, t, indicates the time series dimension. The p value shows what is the smallest level at which we would be able to accept the null hypotheses of a test. We used a 5% level of significance; hence we conclude that the coefficient is significantly different from zero at the 5% level if the p-values is less than or equal to 0.05. If it is greater than 0.05 then we cannot reject the null hypothesis that the coefficient is actually zero at our 5% significance level. The secondary data obtained from the sample companies were analysed with univariate, bivariate and multivariate analysis techniques.

Method of data analysis

This study employed descriptive, correlational and generalized method of moments for the purpose of data analysis. The correlation analysis was used to examine the association between the variables. The descriptive statistics on the other hand served as a first step to assessing the nature of the sampling distribution from which the variables were drawn. The regression technique used by the study was a dynamic panel data estimator; the Generalized Method of Moments (GMM). The GMM estimator was employed because of its ability to tackle the issue of endogeneity.

RESULTS AND DISCUSSIONS

The results in Table 3 disclosed the descriptive statistics results of firm characteristics variables represented as profitability (ROA); financial leverage (FIL); tangibility (TAN), liquidity (LIQ), operating capacity (OPC) and firm size (FIS). The dependent variable of corporate financial distress measured using Spirinage S score (SSS) for the period 2018 to 2022 under investigation. The results disclosed that dependent variables spirinage S score (SSS) recorded a Mean value 13.737. The independent variables ROA, FIL, TAN, LIQ, OPC and FIS disclosed

a Mean values 0.082, 0.526, 0.497, 1.339, 0.943 and 7.138 respectively for the time period investigated.

Table 3: Descriptive Statistics of the Variables (E-views 12 output)

	AZE	SSS	ROA	FIL	TAN	LIQ	OPC	FIS
Mean	2.967667	13.73740	0.080227	0.526527	0.497133	1.339133	0.923333	7.138267
Median	2.800000	3.365000	0.060000	0.300000	0.485000	1.270000	0.785000	7.115000
Maximum	11.12000	223.7800	0.370000	11.60000	0.910000	6.740000	7.690000	8.900000
Minimum	1.250000	0.300000	0.002000	0.009000	0.030000	0.050000	0.050000	0.640000
Std. Dev.	1.328962	29.62331	0.072203	1.043404	0.218820	0.748777	0.792624	1.004474
Skewness	3.163689	4.101224	1.747465	8.270435	0.030149	2.806506	4.730031	-1.807331
Kurtosis	19.19075	23.02636	6.008978	86.16741	1.995895	19.90115	37.57172	13.06236
Jarque-Bera	1888.601	2927.096	132.9280	44940.11	6.324144	1982.217	8029.356	714.4807
Probability	0.000000	0.000000	0.000000	0.000000	0.042338	0.000000	0.000000	0.000000
Sum	445.1500	2060.610	12.03400	78.97900	74.57000	200.8700	138.5000	1070.740
Sum Sq. Dev.	263.1547	130753.6	0.776774	162.2152	7.134467	83.53939	93.60973	150.3361
Observations	150	150	150	150	150	150	150	150

The descriptive statistics also disclosed the standard deviation for the study variables SSS, ROA, FIL TAN LIQ, OPC and FIS reported 29.623, 0.072, 1.043, 0.218, 0.748, 0.792 and 1.004 standard deviation values respectively. From the result, it was discovered that firms size (FIS) has the highest Mean value, minimum and maximum fellow by liquidity (LIQ), operating capacity (OPC) financial leverage (FIL), tangibility (TAN) and lastly, return on assets (ROA). Furthermore, the mean and standard deviation values for all the variables are clear indications that the variables are not constant over time.

The skewness statistics indicated that AZ, SSS, ROA, FIL, TAN, LIQ and OPC variables that represented firm characteristics are positively skewed which shown the variables has a long right tail while FIS that represented firm characteristics is negatively skewed which indicated the variables has a short right tail.

The information provided by kurtosis, SSS, ROA, FIL, LIQ, OPC and FIS respectively have leptokurtic values suggested that the variables are higher than the kurtosis value of (3) that is clearly mesokurtic while TAN has mesokuritc value which suggested that TAN value is lower than kurtosis value 3. The Jarque-Bera test statistic is used to ascertain the difference of the skewness and kurtosis of the series with those from the normal distribution. The null hypotheses of the Jarque-Bera test statistics disclosed that the variable Spirinage S score (SSS), return on assets (ROA), financial leverage (FIL), tangibility (TAN), liquidity (LIQ), operating capacity (OPC) and lastly, firm size (FIS) are not normally distributed. This implied

that their corresponding probability value was less than 5% significant level. Hence, the researcher conducted diagnostic test such as Unit Root test, Histogram Residual Normality Test, before running the estimated model.

Table 4: Results from the Unit Roots Test (E-views 12 output)

Group unit root test: Summary
Series: AZE, SSS, ROA, FIL, TAN, LIQ, OPC, FIS
Date: 11/29/23 Time: 00:14
Sample: 1 150
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-14.9346	0.0000	8	1188
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-15.0137	0.0000	8	1188
ADF - Fisher Chi-square	247.616	0.0000	8	1188
PP - Fisher Chi-square	312.413	0.0000	8	1192

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

The stationarity properties of the data were examined using Im, Pesaran and Shin W-stat, Fisher-ADF and PP-Fisher Chi-square from table 4 above, all the eight variables that represent firm characteristics and corporate financial distress were stationary at levels. This is supported by the Prob.** value with regards ADF - Fisher Chi-square are less than the Prob.** value of 5%. The null hypothesis of panel unit root is therefore rejected with 95% certainty. This indicated that the data series have been cleansed of unit root.

Table 5: Correlation Matrixes (E-views 12 output)

	SSS	ROA	FIL	TAN	LIQ	OPC	FIS
SSS	1	0.129	-0.008	-0.018	0.057	0.035	0.286
ROA	0.129	1	-0.123	-0.229	0.235	0.188	-0.025
FIL	-0.008	-0.123	1	-0.069	-0.124	-0.095	0.011
TAN	-0.008	-0.229	-0.069	1	-0.394	-0.122	-0.043
LIQ	0.057	0.235	-0.124	-0.394	1	0.506	-0.004
OPC	0.035	0.188	-0.095	-0.122	0.506	1	0.127
FIS	0.286	-0.025	-0.011	-0.043	-0.004	0.127	1

The results in table 5 produced a correlation coefficient of R-value of 0.322 and 0.129 in ascertaining the relationship between profitability (ROA) and corporate financial distress (AZE;

SSS). Thus, in applying R-decision rule, we agreed that there is a moderate positive relationship between profitability and corporate financial distress of listed manufacturing firms in Nigeria. Table further produced a correlation coefficient of R-value of -0.075 and -0.008 in ascertaining the relationship between financial leverage (FIL) and corporate financial distress (SSS). Thus, in applying R-decision rule, we agreed that there is a very weak negative relationship between financial leverage and corporate financial distress of listed manufacturing firms in Nigeria. The R-value of -0.108 in ascertaining the relationship between tangibility (TAN) and corporate financial distress (SSS) implied that there is a very weak negative relationship between tangibility and corporate financial distress of listed manufacturing firms in Nigeria. The correlation coefficient of 0.057 indicated that there is a moderate positive relationship between liquidity and corporate financial distress of listed manufacturing firms in Nigeria. The correlation coefficient of 0.035 indicated that there is a moderate positive relationship between operating capacity and corporate financial distress of listed manufacturing firms in Nigeria. Finally, the table produced a correlation coefficient of 0.286 in ascertaining the relationship between firms size (FIS) and corporate financial distress (SSS). Thus, in applying R-decision rule, we agreed that there is a moderate positive relationship between firm size and corporate financial distress of listed manufacturing firms in Nigeria.

Table 6: Results for Panel GMM

Variables	**(Springate S Score)**	
	Coefficient	**t-Statistics/P-value**
ALZE(-1);SSS(-1)	-0.361	-1.194
		(0.135)
ROA	39.799	1.535
		(0.135)
FIL	-0.062	-0.813
		(0.422)
TAN	-3.179	-0.900
		(0.375)
LIQ	-2.701	-0.929
		(0.360)
OPC	-2.769	-0.668
		(0.508)
FIS	-0.241	-0.342
		(0.734)
Mean Dependent	0.115	4.332
S.E of Regression	1.353	19.938
Prob (J-statistic)	0.578	0.262

Result in table 6 demonstrates that when firm characteristic is incorporated in the corporate financial distress model (SSS), all the variables are statistically insignificant at 0.05 significant level. After the analysis, the J-statistics probability value was obtained, with the probability value (0.578; 0.262) greater the signification level of 0.5%, it was said that the two model was valid or the null hypothesis (Ho) was accepted so that this study used GMM method was no serial autocorrelation of errors and had a valid instrument. The GMM model system is an analysis because the conditions are in accordance with the feasibility of the model.

Test of Hypotheses and Discussion of Findings

Ho_1: Profitability does not positively and significantly affect springate s score of listed manufacturing firms in Nigeria.

The association between profitability on corporate financial distress in the model indicated positive and insignificant impact with t-statistic of 1.535 and prob value of 0.135. This implies that 1 per cent increase in firm characteristics in term of profitability would led to increase in corporate financial distress by 1.535 on the long run. Based on the decision, the study concluded that profitability does positively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. This findings reinforces the study conducted by Ikpesu (2019), Zelie (2019) that profitability positively affects the financial distress of listed companies. However, the findings of this study do not support the research conducted by Rafania et al (2020), Susilowati et al (2020), Isaak and oluoch (2023) that profitability negatively influence financial distress of listed firms.

Ho_2: Financial Leverage does not positively and significantly affect springate s score of listed manufacturing firms in Nigeria.

The association between financial leverage on corporate financial distress in the model indicated negative and insignificant impact with t-statistic of -0.813 and prob value of 0.422. This implies that 1 per cent increase in firm characteristics in terms of financial leverage would led to decrease in corporate financial distress by 0.813 on the long run. Based on the decision, the study concluded that financial leverage does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. The findings of this study concur with the study conducted by Zelie (2019) that financial leverage negatively affect financial distress of listed companies. However, the outcome of this study disagrees with the study conducted by Rafania et al (2020, Susilowati et al (2020), Ikpesu (2019), Issak and Oluoch (2023), Wesa and Otinga (2019) that financial leverage positively influence financial distress of listed firms. This shows that the greater the value of leverage properly managed

using relevant financial management models by a firm will present appropriate conditions that would minimize the level of financial distress of companies.

Ho_3: Tangibility does not positively and significantly affect springate s score of listed manufacturing firms in Nigeria.

The association between tangibility on corporate financial distress in model indicated negative and insignificant impact with t-statistic of -0.900 and prob value of 0.375. This implies that 1 per cent increase in firm characteristics in term of tangibility would led to decrease in corporate financial distress by 0.90 on the long run. Based on the decision, the study concluded that tangibility negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria.

Ho_4: Liquidity does not positively and significantly affect springate s score of listed manufacturing firms in Nigeria.

The association between liquidity on corporate financial distress in the model indicated negative and insignificant impact with t-statistic of -0.929 and prob value of 0.360. This implies that 1 per cent increase in firm characteristics in term of liquidity would led to decrease in corporate financial distress by 0.929 on the long run. Based on the decision, the study concluded that liquidity does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. This outcome of this study reinforces the study conducted by Ikpesu (2019), Rafatinia et al (2020) that liquidity negatively influences financial distress of listed firms. However, the findings of this study do not support research conducted by Zelie (2019), Wesa and Otinga (2019) that liquidity positively impact on financial distress of listed firms. The findings of the study shows that the greater the value of corporate liquidity effectively and efficiency managed by a firm will present appropriate conditions that would minimize the level of financial distress of companies.

Ho_5: Firm size does not positively and significantly affect springate s score of listed manufacturing firms in Nigeria.

The association between firm size on corporate financial distress in the model indicated negative and insignificant impact with t-statistic of -0.342 and prob value of 0.734. This implies that 1 per cent increase in firm characteristics in term of firm size would led to decrease in corporate financial distress by 0.34 on the long run. Based on the decision, the study concluded that firm size does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. The findings of this study is consistent with

the study conducted by Susilowati et al (2020), Issak and Oluoch (2023), Wangsih et al (2021), Runis et al (2021) that firm size negatively impact on financial distress of listed companies. However, the findings do not support the study conducted by Ikpesu (2019), Zelie (2019) that firm size positively influence financial distress of listed companies. This shows that the greater the value of assets owned by a firm will cause the conditions of financial distress to be reduced.

Ho_6: Operating capacity does not positively and significantly affect corporate financial distress of listed manufacturing firms in Nigeria.

The association between operating capacity on corporate financial distress in the model indicated negative and insignificant impact with t-statistic of -0.668 and prob value of 0.508. This implies that 1 per cent increase in firm characteristics in term of operating capacity would led to decrease in corporate financial distress by 0.508 on the long run. Based on the decision, the study concluded that operating capacity does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. This result from the study reinforces the study conducted by Issak and Oluoch (2023), Susilowati et al (2020) that operating capacity impact on the financial distress of listed firms. However, the findings do not support the study conducted by Hadi and Andayani (2014) that operating capacity positively affect financial distress of listed companies. This shows that the greater the value of turnover generated by a firm will present appropriate conditions that would minimize the level of financial distress of companies.

SUMMARY, CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

This study investigated the determinants of financial distress of listed manufacturing companies in Nigeria from 2018 to 2022. The results from the regression analysis revealed that profitability does positively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria; financial leverage does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria; tangibility negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria; firm size does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria and operating capacity does negatively and insignificant affect corporate financial distress on the long of listed manufacturing firms in Nigeria. On the basis of the empirical findings, the study concluded that corporate firm characteristics such as profitability, liquidity, tangibility, firm size, leverage and operating

capacity does influence corporate financial distress of listed manufacturing firms in Nigeria. Hence, the study suggested as follows:

1. Corporate managers should use the various determinants of financial distress to detect early signs of financial distress and take innovative and practical actions to prevent the occurrence of financial liquidation.
2. The governance of NGX and research organizations should invest more on research activities in order to better understand the problems and challenges of financial distress of listed firms in Nigeria.
3. The government and financial regulators should establish restrictive and punitive actions for companies which ignore measures to prevent corporate financial difficulties.
4. Managers of listed companies should develop strong policies on voting power and strong corporate governance mechanisms as well as reliable legal actions in cases of corporate failures.
5. The Securities and Exchange Commission (SEC) should properly supervise and monitor the financial progress of listed companies and advice them appropriately on ways of minimizing financial difficulties and failures as this will help firms from going into liquidation.
6. Manufacturing firms listed in the Nigeria Exchange Group should assess fiscal advantages and bankruptcy costs associated with loan funding. Levels of debt should be kept at appropriate levels because a high debt level has been shown to increase the probability of financial distress.

The findings of this study can have practical implications for the government, corporate managers, as well as investors, financial managers and analysts. Hence, based on the outcome of the study, there are several limitations that can submitted for future research. First, this research only uses manufacturing firms as the scope of the research. Therefore, the results of this study cannot be generalized for all firms listed on the NGX. Hence, future research should be conducted on other sectors listed on the NGX. Also the period of the study should be expanded from 2010 to 2023. Second, this study uses only six firm characteristics of profitability, liquidity, leverage, tangibility, firm size and operating capacity. Consequently, future research should be conducted to include other internal indicators of financial distress of firms. Third, Future research should be conducted on external determinants of financial distress of listed firms in Nigeria. Fourth, future research should use other dimensions of financial distress such as Zmijewski, Fulmer, Blasztk and CA – Score to provide more robustness in generalizations of research outcomes.

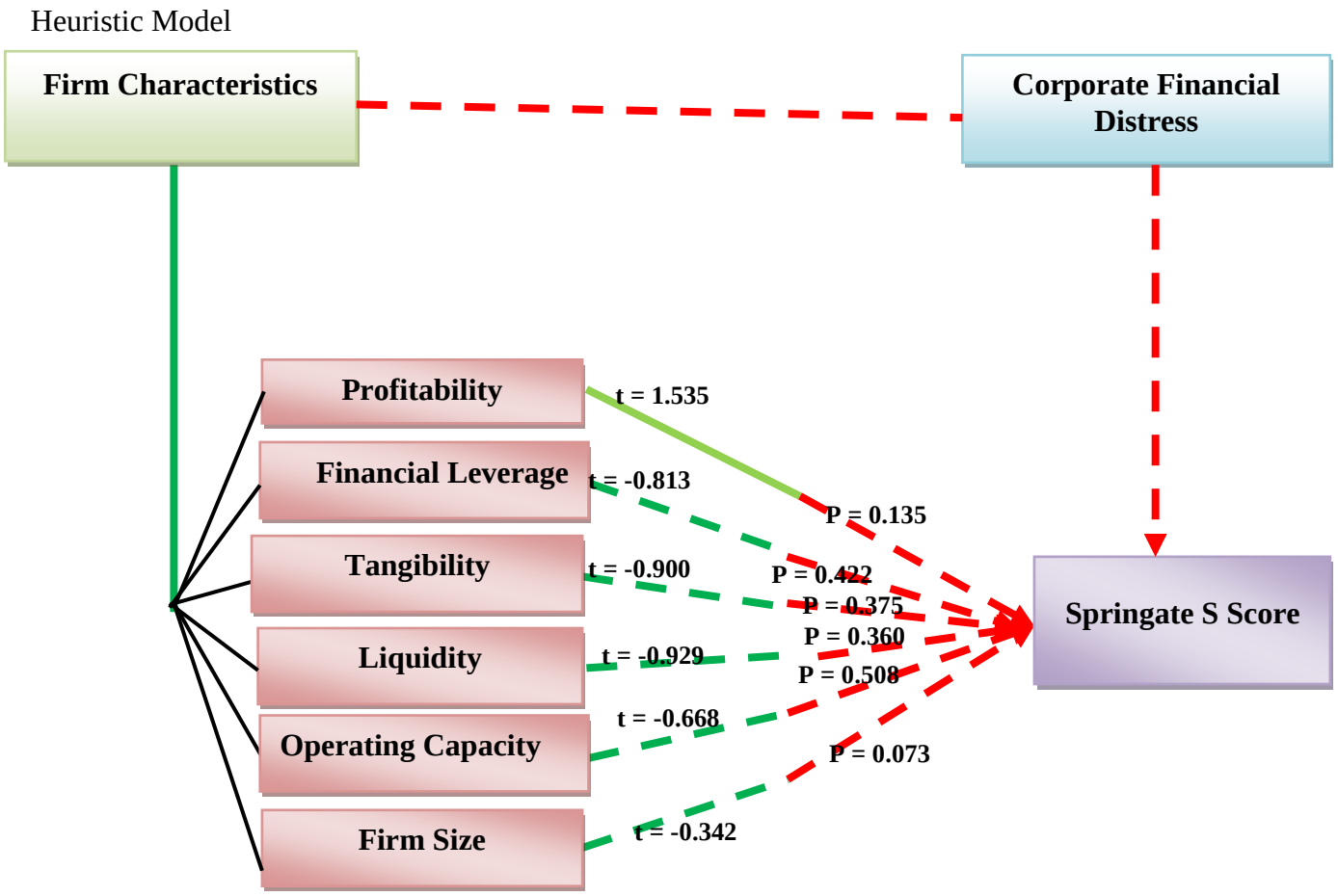

Figure 2: Heuristic Model

ACKNOWLEDGEMENT

The researchers wish to acknowledge all those that contributed in one way or the other for the successful completion of this research especially the Tertiary Education Trust Fund (TETFUND) for the provision of grants (Funding) and Isaac Jasper Boro College of Education Sagbama, Bayelsa State, Nigeria for the enabling environment.

REFERENCES

Abdioglu, N. (2019). The impact of firm specific characterisitcs on the relation between financial distress and capital structure decisions. *Journal of Business Research – TUR, 11(2),* 1057 – 1067.

Adeyemi, S. B., Omobude, S.I. & Udofia, I. E. (2019). Impairment testing of intangible assets and quality of financial reporting of Nigerian manufacturing companies. *Global Journal of Accounting, 5(1),* 1-15.

Afolabi, A., Olabisi, J., Kajola, S.O. & Asaolu, T.O. (2019). Does leverage affect the financial performance of Nigerian firms? *Journal of Economics and Management,* 37(3), 5 – 22.

Ahiauzu, A.I. & Asawo, S.P. (2016).*Advanced social research methods,* CIMRAT Publications.

Akerlof, G. (1970). The market for “lemons”: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84, 488–500.

Al-Najjar, B. (2017). The inter – relationship between leverage and dividend policy: Empirical evidence from Jordanian data. *International Review of Applied Economics, 25(2)*, 209 – 224.

Altman, E. I. (1968). Financial ratios, discriminate analysis and the prediction of corporate bankruptcy. *The Journal of Finance, 23(4),* 589-609.

Appah, E. (2020). *Research methodology: Integration of Principles, Methods and Techniques,* Vinson Printing and Publishing Ventures.

Arowolo, R.O (2016). The Mediating Effects of the Quality-differentiated Auditors on the Relationship between Organizational Attributes and Monitoring Mechanisms (Doctoral Dissertation, Universiti Utara Malaysia).

Asterious, D. & Hall, S. (2007). *Applied econometrics: A Modern Approach.* Palgrave Macmillan.

Atuahene, R.A. (2016). Corporate governance and financial performance: Evidence from the Ghanaian banking sector. DBA Thesis, University of Bradford, United Kingdom. http://hdl.handle.net/10454/15020.

Baimwera, B. & Muriuki, A. M. (2014). Analysis of corporate financial distress determinants: A survey of non-financial firms listed in the NSE. *International Journal of Current Business and Social Sciences, 1(2)*, 58-80.

Banda, Z. (2019). Corporate governance structures: The performance of Zambian listed companies. PhD Thesis, University of the Free State, Bloemfuntein, South Africa.

Baridam, D.M. (2008). *Research methods in administrative sciences.*Sherbrooke Associates.

Bebchuk, L. A., & Weisbach, M. S. (2010). The State of Corporate Governance Research. *Review of Financial Studies*, *23*(3), 939–961.

Bhattacherjee, A. (2012). Social sciences research: principles, methods and practices. University of Florida, http://scholarcommons.usf.edu//oa_textbooks

Berlie, A. A. & Means, G. C. (1932). *The modern corporation and private property.* Macmillan.

Boubaker, S., Hamza, T., & Vidal-García, J. (2018). Financial distress and equity returns: A leverage-augmented three-factor model. *Research in International Business and Finance, 46*, 1-15.

Charalambakis, E. C., & Garrett, I. (2019). On corporate financial distress prediction: What can we learn from private firms in a developing economy? *Evidence from Greece. Review of Quantitative Finance and Accounting, 52*(2), 467-491.

Choy, S. L. W., Munusamy, J., Chelliah, S., & Mandari, A. (2011). Effects of financial distress condition on the company performance: A Malaysian perspective. *Review of Economics & Finance*, *1*(4), 85–99.

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2010). Signaling Theory: A Review and Assessment. *Journal of Management*, *37*(1), 39–67. doi:10.1177/0149206310388419

Dalci, I. (2018). Impact of financial leverage on profitability of listed manufacturing firms in China. *Pacific Accounting Review, 30(4),* 410-432.

Dallas, L. (2011). Short-termism, the financial crisis, and corporate governance. *Social Science Electronic Publishing*, 266-361.

Devji, S., & Suprabha, K. R. (2016). Corporate financial distress and stock return: Evidence from Indian stock market. *Nitte Management Review*, *10*(1), 34–44.doi:10.17493/nmr/2016/105514

Eboiyehi, O. C., & Ikpesu, F. (2017). An empirical investigation of capital structure and tax shield on business distress in Nigeria: An Application of Panel Corrected Standard Error (PCSE) Approach. *Journal of Global Economics*, *Management and Business Research*, *8*(2), 67–75.

Etim, O.E., Ihenyen, J.C. & Umoffong, N.J. (2020). Financial performance determinants at the Nigerian oil and gas sector.*East African Scholars Journal of Economics, Business and Management, 3*(2), 941 – 951.

Fama, E. & Jensen, M. (1983).Separation of ownership and control. *Journal ofLaw and Economics, 26*(1)**,** 301-325.

Gathecha, J. W. (2016). Effect of firm characteristics on financial distress of non-financial listed firms at Nairobi Securities Exchange. Kenya (Doctoral dissertation, Kenyatta University).

Grossman, S. & Hart, J. (2017). Corporate financial structure and managerial incentives in: The economics, information and uncertainty. J. McCall (Ed). University of Chicago Press.

Gravetter, F.J. & Forzano, L-A.B. (2019).Research methods for the behavioural sciences. Wadsworth-Cengage Learning.

Gujarati, D.N. & Porter, D.C. (2009). *Basic Econometrics (5th ed)*. McGraw Hill.

Hadi, S. & Andayani, E. (2014). Mekaiasm corporate governance dan kinerja keangenpada perusahaan yang mengalami financial distress. Jurnal Hmu & Riset Akuntansi, 3(5), 2 – 17.

Handriani, E., Ghozali, I. & Hersugodo, A. (2021). Corporate governance on financial distress: Evidence from Indonesia. *Management Science Letters, 11,* 1833 – 1844.

Heniwati, E. & Essen, E. (2020). Which retail firm characteristics impact on financial distress? *Jurnal of Akuntansi Dan Keuangan, 22*(1), 40 -46.

Idrees, S., & Qayyum, A. (2018). *The impact of financial distress risk on equity returns: A case study of non-financial firms of Pakistan stock exchange*. Retrieved from https://mpra.ub.unimuenchen.de/85346/1/MPRA_paper_85346.pdf

Ikpesu, F. (2019). Firm specific determinants of financial distress: Empirical evidence from Nigeria. *Journal of Accounting and Taxation*, *11*(3), 49 – 56.

Ikpesu, F., & Eboiyehi, O. C. (2018). Capital structure and corporate financial distress of manufacturing firms in Nigeria. *Journal of Accounting and Taxation*, *10*(7), 78–84. doi:10.5897/JAT2018.0309.

Imeokparia, L., Adesanmi, D. & Fadipe, O. (2021). Effect of financial leverage on financial performance: A comparative study of deposit money banks and manufacturing companies in Nigeria. *Global Journal of Accounting,*7(1), 37 – 46.

Issak, S. Y. & Oluoch, O. J. (2023). Firm characteristics and financial distress among manufacturing firms listed at Nairobi Securities Exchange. *International Journal of Social Science and Humanities Research, 1(1)*, 411 – 422. Doi:10.61108/ijsshr.vlil.38

Isayas, Y. N. (2021). Financial distress and its determinants: Evidence from insurance companies in Ethiopia. *Cogent Business and Management.*

Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, *3*, 305–360.

Kisangi, F. N. (2021). Effect of corporate governance on financial performance of commercial banks in Kenya. *IOSR Journal of Economics and Finance, 12*(1), 46-80.

Kothari, C.R. (2012). *Research Methodology: Methods and Techniques,* (2nd ed), New Age International Publishers.

Kpolovie, P.J. (2010). *Advanced Research Methods*.Springfield Publishers.

Kristanti, F. T., Rahayu, S., & Huda, A. N. (2016). The determinant of financial distress on Indonesian family firm. *Procedia: Social and Behavioral Sciences*, *219*,440–447.

Menicucci, E. & Paolucci, G. (2018). Forward looking information in integrated reporting: A theoretical framework. *African Journal of Business Management, 12(8)*, 555 – 567.

Mohammed, M., & Yusheng, K. (2019). The relationship between liquidity and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). *International Journal of Advanced Research in Management and Social Sciences*, *8*(4), 1–32.

Moratis, L. (2018). Signalling responsibility? Applying signaling theory to the ISO 26000 standard for social responsibility. *Sustainability*, 10, 4172; doi:3390/su10114172

Muigai, R. G. & Muriithi, J. G. (2017). The moderating effect of firm size on the relationship between capital structure and financial distress of non-financial companies listed in Kenya. *Journal of Finance and Accounting. 5(4),* 151-158.

Mule, R.K., Mukras, M.S. & Nzioka, O.M. (2015). Corporate size, profitability and market value: An econometric panel analysis of listed firms in Nigeria. *European Scientific Journal, 11(13),* 376 – 396.

Murtadha, M. A., Murtadha, M. A., Muhammad, A., & Mulia, S. (2018). Factors Influencing Financial Distress and Its Impact on Company Values of the Sub-Sectors Firms in Indonesian. *Journal of Accounting Research, Organization and Economics, 1(2),* 191–204.

Myers, S. C. & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13(2),* 187 – 221.

Nangih, E. & Onuora, J.K.J. (2020). Capital intensity and firm profitability interconnectedness in Nigeria. *Journal of Accounting, Business and Social Sciences,* 3(2), 24 – 36.

Narbel, F. & Muff, K. (2017). Should the evolution of stakeholder theory be discontinued given its limitation? *Theoretical Economics, 7*(4), 1357-1381.

Ndinda, B. K. (2021). Effect of firm characteristics on financial distress among non-financial firms listed at the Nairobi Securities Exchange. A Master of Science in Finance Thesis, University of Nairobi, Kenya.

Ndiyo, N. A. (2015), *Fundamentals of Research in Behavioural Sciences and Humanities.* Wusen Publishers.

Njogu, L., Gekas, M., Waititu, G. & Omido, K. (2017). Effect of compensation in risk taking among listed commercial banks in Kenya. *European Journal of Business and Strategic Management, 2(2),* 50 – 81.

Oeta, S.M., Kiai, R. & Muchiri, J. (2019). Capital intensity and financia performance of manufacturing companies listed on Nairobi Securities Exchange. *International Journal of Scientific and Engineering Research,* 10(9), 1647 – 1658.

Olugbenga, O. M., Olusola, A. J., Zacchaeus, S. A. & Oluwagbemiga, O.E. (2014). Financial reporting and compliance of impairment of non-current assets on Nigerian banks. *European Journal of Accounting, Auditing and Finance Research*, *2*(2), 18-35.

Urhoghide, R.O. & Omolaye, K.E. (2017).Effect of corporate governance on financial performance of quoted oil and gas in Nigeria. *International Journal of Business and Social Sciences*, 8(7), 114 – 124.

Ong'era, J. B., Muturi, W., Oluoch ,O., & Karanja, J. N. (2017). Liquidity as a Financial Antecedent to FinancialDistress in Listed Companies at Nairobi Securities Exchange. *Journal of Emerging Issues in Economics, Finance and Banking. An Online International Research Journal*, *6(1),* 306-367.

Pranowo, K, Achsani N. A., Manurung, A. H, & Nuryartono, N. (2010). Determinant of corporate financial distress in an emerging market economy: Empirical evidence from the Indonesian stock exchange2004-2008. *International Research Journal of Finance and Economics, 52(1),* 81-90.

Putri, G. N., Setiawan, V., Faisol, A., Roza, F. & Yulda, F. P. (2018). Does corporate governance affect tax planning? A case study of a manufacturing company. *Research Journal of Finance and Accounting*, 9(16), 95-101.

Rafatnia, A. A., Ramakrishnan, S.A.L., Abdullahi, D.F.B., Nodeh, F.M., & Farajnezhad, M. (2020). Financial distress prediction across firms. *Journal of Environmental Treatment Techniques,8(1),* 646 – 651.

Rappaport, A. (2005). The economics of short-term performance obsession. *Financial Analysts Journal*, *61*(1), 65-79.

Ruin, A., Arifin, D.S., Masud, A., & Kalsum, U. (2021). The influence of liquidity, leverage, company size, and profitability on financial distress. *International Journal of Business and Social Science Research, 2(6),* 11 – 17.

Sani, A.B., Aliyu, A.A. & Bakare, T.O. (2019).Effect of corporate governance on financial performance of deposit money banks in Nigeria. *Asian Journal of Economics, Business and Accounting*, 13(3), 1 – 11.

Shimenga, M. A., & Miroga, J. (2019). Influence of financial leverage and liquidity on financial performance of manufacturing firms listed at the Nairobi Securities Exchange. *The Strategic Journal of Business & Change Management,* 6 (2), 799 –814.

Solanke, A.A. (2021). Impact of indebtedness on financial performance of quoted downstream oil and gas companies in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 10(4), 8 – 21.

Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics,* 87, 355-374.

Susilowati, Y., Puspitasari, E. & Fauziyah, N.A. (2020). The determinants of financial distress: An empirical investigation of Indonesian Firms. *International Journal of Environmental Science,* 5, 140 – 150.

Tesfamariam, Y. (2014). The Determinants of financial distress in the case of manufacturing share companies in Addis Ababa-Ethiopia. Addis Ababa University, Ethiopia.

Thim, C. K., Yap, V. C. & Chai, S. N. (2011). Factors Affecting Financial Distress: The case of Malaysian Public Listed Firms. *Corporate Ownership and Control, 8*(4D), 345–351.

Thakor, A. V. (2014). Bank capital and financial stability: An economic trade-offor a Faustian bargain? *Annual Review of Financial Economics*, *6*(1), 185–223.doi:10.1146/annurev-financial-110613-034531.

Tinoco, M. H., Wilson, N. (2013). Financial distress and bankruptcy prediction among listed companies using accounting, market and macroeconomic variables. *International Review of Financial Analysis, 30,* 394-419.

Urhoghide, R. O. & Omolaye, K. E. (2017). Effect of corporate governance on financial performance of quoted oil and gas in Nigeria. *International Journal of Business and Social Sciences*, *8*(7), 114-124.

Wagana, D. & Karanga, K. (2015). The influence of corporate governance on corporate performance among manufacturing firms in Kenya: A theoretical model. *International Journal of Academic Research in Business and Social Sciences, 5*(4), 258-272.

Wangsih, J.C., Yanti, D.R., Yohana, Y., Kalbuana, N. & Cahyadi, C.I. (2021). Influence of leverage, firm size, and sales growth on financial distress. *International Journal of Economics, Business and Accounting Research, 5(4),* 18 – 32.

Welesa, E., Omagwa, J. & Muathe, S. (2002). Financial risk, firm size and financial distress: Turbulent times for firms listed at the Nairobi Securities Exchange Kenya. *Advanced Journal of Social Sciences, 10(1),* 88 – 102. https://doi.org/10.21467/ajss.10./88-102

Wesa, E. W. & Otinga, H.N. (2018). Determinants of financial distress among listed firms at the Nairobi securities exchange. *The Strategic Journal of Business and Change Management* 5(4), 1057-1073.

Widhiadnyana, I. K. & Ratnadi, N. M. (2019). The impact of managerial ownership, institutional ownership, proportion of independent commissioner and intellectual capital on financial distress. *Journal of Economics, Business and Accountancy, 21(3)*, 351 – 360.

Zelie, E. M. (2019). Determinants of financial distress in case of insurance companies in Ethiopia. *Research Journal of Finance and Accounting, 10(15),* 27 – 31.