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Effect of Firms Attributes on Financial Performance of Listed Industrial Goods Firms in Nigeria

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Abstract
The main objective of the study is to examine the extent to which firm attribute affects financial performance of listed industrial goods firm in Nigeria. The study specifically determined the extent to which firm size, firm liquidity, firm leverage affect net profit margin of industrial goods firm in Nigeria. The study adopted the ex-post facto research design. Secondary data was sourced from the annual reports of the sampled of five industrial goods firms for a ten (10) year period, spanning 2014 to 2023. The data collected were analyzed using descriptive analysis and multiple regression analysis. The findings of the study include: Firm Size have a positive and significant effect on the net profit margin of listed industrial goods firms in Nigeria (β = 2.1528; p-value = 0.0366); Firm liquidity have a negative non-significant effect on the net profit margin of listed industrial goods firms in Nigeria (β = 1.0242; p-value = 0.3111); Firm Leverage have a negative non-significant effect on the net profit margin of listed industrial goods firms in Nigeria (β = -1.1066; p-value = 0.2742). In conclusion, the goal of developing firm attribute is to create a strong and distinctive identity for a company which can lead to differentiation, brand recognition, customer loyalty and partnership and collaboration opportunities. The study recommended that listed industrial goods firms in Nigeria should strive for an optimal balance between liquidity and leverage financing by assessing their capital structure decisions to avoid excessive reliance on the leverage while also avoiding an overly cautious approach with too much liquidity financing.
Keywords: *financial performance, industrial goods firm, firm size, firm liquidity, firm leverage*

Introduction

Background to the Study

Over the years, firm performance has attracted great attention of researchers in the world all over the world mainly because of its critical role of telling a lot about the effectiveness of an organization and also in reflecting the growth of the organization in the long-term (Nguyen, Tan & Nguyen, 2021). On the note that investors are rational, they are on the look-out for this indicator as a signal for making investment decisions. In addition, the reason for such consciousness is because of the apparent correlation between firm performance, firm characteristics and firm earnings (Jihadi, Vilantika, Hashemi, Arifin, Bachtiar&Sholichah, 2021). Acknowledging the determinants of firm performance is paramount, especially to investors, business managers, policy-makers, the academia and lenders whose interest in this area is to ascertain which firm-level factors impair or enhance the worth and performance of the business. Financial performance of a firm has proven to be a diverse construct, especially in its definition and measurement. Unarguably, higher performance levels reflect management

effectiveness and efficiency in utilizing the organization's resources, which contributed to the country's economic growth, competitive edge and long-term value-creation (Hameed &Tsoho, 2020).

Assessment of firm attributes that affect financial performance of companies has gained much interest lately in the corporate finance literature although low interest has been paid to industrial goods firms in Nigeria, in recent years. Industrial goods firms as economic entities are designed to use companies' resources with the aim of maximizing company profits and firm value. Maximizing financial performance entails taking full advantage of profit or income by considering risk factors and the time value of money (Fadhilah, Kurniati&Suherman, 2022). The short-term goal of a firm is to obtain maximum profit by utilizing existing resources, while the long-term goal of a company is to increase its firm value by growing the wealth of its shareholders. Financial performance in this case refers to the ability of an industrial goods company to generate more revenue in excess of its expenses.

Industrial goods firms jostle for competitive placement within the local and global markets. Their respective interactions with existing financial markets and of course, the investing community have also witnessed significant surge. To date, researches have constantly prescribed the increased and continuous use of accounting information to practically and effectively communicate the value and wellbeing of firms (Jeroh, 2020). The place of firms' financial attributes is important since they provide credible and strategic information about the overall wellbeing of the entities and also firm financial performance. Financial performance is a term that is used to explain both the profitability success of a business and also how shareholders' welfare has been maximized using available firm resources (Bencharles&Osifo, 2022). A high company performance is desirable for company owners because such indicates the prosperity of shareholders (Akhalumeh, Izevbekhai&Ohenhen, 2022).

Financial performance is a key indicator of financial wellbeing of any company, as it serves the basis when making financial decision such as dividend and financial investment. All investors have one common objective when investing in shares, that is, to maximize expected return on their investment. The most crucial aspect of companies' financial health is the performance of the firm. The higher the value of a firm, the better its financial position, as well as the projection of prospective investors. Investor perception of firms' financial results is often associated with return on equity or other metrics like stock price, which is very important in investment decision (Sulaiman, Mijinyawa& Isa, 2019).

In corporate finance, the commonly used method for financial analysis is the use of profitability and firm value ratios as key measures of firms' overall efficiency and performance (Shuaibu, Ali & Amin, 2019). These metrics are widely used in financial models for performance measurements. Theoretically, several variables that may influence firm performance as the survival or business success mostly depends on the profitability of the firm. However, the specific firm characteristics remain unknown to firms as to which variable contributes to the financial prospect of the firm, and this justify the reason of the current study.

Focusing on industrial goods companies to examine factors that determine financial performance is essential since these companies are of a great significance to other businesses as well as individuals. They contribute primarily to the economic growth and well-being of individuals in the society by so many ways such as increasing the number of employment opportunities. The objective of industrial goods firms to maximise their firm performance is essentially achieved through the implementation of appropriate financial management functions because every financial decision taken will affect other financial management

decisions and will have an impact on the financial results of the company. Factors that affect firm performance such as liquidity, turnover rate, sales growth, capital structure, operating efficiency, financial soundness, board attributes, age of the company, current ratio, firm size, et cetera have been widely discussed in various empirical studies (Fadhilah, Kurniati & Suherman, 2022; Nguyen, Tan & Nguyen, 2021; Dang, Vu, Ngo & Hoang, 2019). However, the present study focuses on only three determinants which are: firm size, firm liquidity, and firm leverage. It is against this backdrop that this study examines the effect of firms attributes on financial performance of listed industrial goods firms in Nigeria.

Statement of Problem

Shareholders and lenders invest heavily in firms that are performing financially well. Sound financial performance helps to provide a healthy environment that enables a company maximise the wealth or investments of the shareholders (Nangih, Turakpe&Effe-Nnamdi, 2023). Therefore these stakeholders expect such companies to perform to the expected or even beyond standards. Some industrial goods companies in Nigeria have so far performed well while others have suffered declined performance (Ugbede, Ekpa, Odobi, Eidicha&Egwuaba, 2023). Poor performance makes the value of the firms to go down since the stock tend to be unattractive to investors. To add to this issue, the condition of Nigerian financial market has been weakened by a number of uncertainties and economic challenges bedeviling firm performance and impeding the smooth running of business process. The consequence is the observed decline in the efficiency of firms that do not have adequate firm resources with which to overcome the challenges. Returns on shareholders' investment which are the best reflection of firms' performance have gone down beyond expectations. While this may rightly be attributed to the ravages caused by the recent economic downturn in the country and the pandemic of the Covid-19, the problem cannot be divorced from factors such as poor firm size, low liquidity, and inadequate leverage.

In fact, the financial performance of firms look more like the accounting information embedded in the factors aforementioned. Investors perceive the extent of success attained by a firm through the firm's financial attributes (Appah, E., &Duoduo, G. (2024)). However, a declining financial performance often means that the investor's perception of the success of the company will be poor and negative.When the financial performance of a firm depreciates, it shows in lower stock prices which provide a bad signal to the market and discourages investors' interest in making investment decisions. Even lenders are also discouraged from extending long-term debt facilities to firms with declining firm performance. This makes it justifiable to examine how firm attributes affect the financial performance of lusted industrial goods firms in Nigeria. The studies in the past such asNangih, Turakpe and Effe-Nnamdi (2023);Sabiya and Joel (2023);Handoyo, Mulyani, Ghani and Soedarsono (2023);Fadhilah, Kurniati and Suherman (2022); Mwendwa (2022); Bencharles and Osifo (2022); Akhalumeh, Izevbekhai and Ohenhen (2022); Nguyen, Tan and Nguyen (2021); Jihadi, Vilantika, Hashemi, Arifin, Bachtiar and Sholichah (2021); Jeroh (2020); Hameed and Tsoho (2020); Endri and Fathony (2020); Abba, Lawal and Sadah (2020); Sampurna and Romawati (2020); Oyeyemi, Enyi and Emmanuel (2019); Dang, Vu, Ngo and Hoang (2019); Sulaiman, Mijinyawa and Isa (2019); et cetera which were conducted to examine similar issue did not cover 2023 accounting period in Nigeria, hence the need to expand the scope of the study.

Objective of the Study

The main objective of the study is to examine the effect of firms attributes on financial performance of listed industrial goods firms in Nigeria. The specific objectives of the study are as follows:

1. To examine the effect of firm size on the net profit margin of listed industrial goods firms in Nigeria.
2. To ascertain the effect of firm liquidity on the net profit margin of listed industrial goods firms in Nigeria.
3. To examine the effect of firm leverage on the net profit margin of listed industrial goods firms in Nigeria.

Research Hypotheses

The following research hypotheses stated in the null (H0) and alternate (H1) are going to be tested in the study as follows:

Hypothesis One:

H0: Firm size has no significant effect on the profit margin of listed industrial goods firms in Nigeria.

H1: Firm size has a significant effect on the net profit margin of listed industrial goods firms in Nigeria.

Hypothesis Two

H0: Firm liquidity has no significant effect on the net profit margin of listed industrial goods firms in Nigeria.

H1: Firm liquidity has a significant effect on the net profit margin of listed industrial goods firms in Nigeria.

Hypothesis Three

H0: Firm leverage has no significant effect on the net profit margin of listed industrial goods firms in Nigeria.

H1: Firm leverage has a significant effect on the net profit margin of listed industrial goods firms in Nigeria.

Significance of the study

The significance of the study on the effect of firms' attributes on the financial performance of listed industrial goods firms in Nigeria extends its impact to various stakeholders.

Scope of the study

This project mainly investigates the effect of firm attributes on the financial performance of listed companies in Nigeria. The target population is focused on industrial goods firms whose shares are traded on the Nigerian Exchange Group. A ten (10) year time scope from 2014-2023 is adopted in this research. The proxies for the firm attributes are firm size, firm liquidity, and firm leverage while the proxy for financial performance is net profit margin.

Conceptual Framework

Firm Attributes

Firm attribute can be defined as the characteristics or internal features that define and describe a particular company (Amahalu&Okudo, 2023). Within the context of organizational dynamics, firm attributes encompasses a broad spectrum of features that collectively shape and delineate the distinct identity of a particular business enterprise. These attributes serve as the

foundational elements that not only define the external image but also involvedly contribute to the internal workings (Appah&Duoduo, 2024)and culture of the organization. They represent the unique qualities, traits, and facets that set a company apart within its industry and contribute to its overall character (Nworie, Okafor and John-Akamelu, 2022).

At a fundamental level, firmsattributes encompass a myriad of dimensions, including but not limited to organizational structure, cultural nuances, strategic orientation, and operational practices (Bala, 2021). The organizational structure, for instance, delineates the hierarchical framework, reporting relationships, and the overall arrangement of departments within the company. Cultural attributes delve into the shared values, beliefs, and norms that permeate the organizational environment, influencing employee behavior, decision-making processes, and the overall work ethos.

Moreover, firms attributes extend their reach to strategic orientation, encapsulating the company's overarching approach to achieving its goals and addressing the competitive business environment. This includes considerations such as firm leverage, liquidity, size, innovation, market positioning, and responsiveness to external factors (Efuntade&Akinola, 2020). Operational practices, on the other hand, encapsulate the day-to-day procedures, methodologies, and efficiency measures that contribute to the company's overall functionality and performance.In essence, the concept of firms attribute embodies the holistic essence of an organization, encapsulating its personality, identity, and operational framework (Nworie, Okafor and John-Akamelu, 2022). These attributes collectively contribute to the narrative of the company, influencing stakeholder perceptions, shaping organizational resilience, and defining the trajectory of its success within the changing business environment. Understanding and strategically managing these attributes become imperative for companies aiming not only to establish a distinct market presence but also to foster a resilient and adaptable internal environment conducive to sustained growth and success.

Firm Size

Firm size is crucial aspect of business that can be determined by either the total assets or the total sales generated by a company (Akhalumeh, Izevbekhai & Ohenhen, 2022). The size of a consumer goods firm is commonly measured by the value of its assets. However, there are other factors that can be used to classify a company as big or small, such as the scale of operations and number of employees (Hameed & Tsoho, 2020). Firm size can have a significant impact on a company’s competitiveness (Sampurna & Romawati, 2020), as larger companies tend to have more resources to support their operations and benefit from economies of scale, which allow them to lower costs and increase output (Nguyen, Tan & Nguyen, 2021). It is important to note that the definition of firm size may vary depending on the context, industry, or country. For instance, a small business in one industry may be considered a large business in another. In addition, the measurement of firm size can also be influenced by other factors, such as the age of the company, its ownership structure, and its location (Jeroh, 2020). Therefore, it is essential to consider the specific context when discussing firm size.

Moreover, while large companies may have some advantages, such as greater resources and economies of scale, small companies can also thrive in specific riches, provide personalized services, and be more innovative and agile (Fadhilah, Kurniati & Suherman, 2022). In some cases, smaller companies may be better suited to respond quickly to changing market conditions or customer needs, whereas larger companies may struggle to adapt due to their size and bureaucracy.

Thus, firm size is an essential aspect of business that can be determined by different factors such as total assets, total sales, scale of operations, and number of employees (Dang, Vu, Ngo, Hoang, 2019). While large companies may enjoy advantages such as more resources and economies of scale, small companies can also be competitive by specializing in niche markets, providing personalized services, and being more innovative and agile (Fadhilah, Kurniati, & Suherman, 2022). Understanding the concept of firm size is crucial for business owners, policymakers, investors, and other stakeholders who need to make informed decisions about the companies the interact with (Shuaibu, Ali, & Amin, 2019).

Firm Liquidity

Firm liquidity refers to a company's ability to meet its short-term financial obligations as they come due. This includes the company's ability to pay its bills, meet payroll obligations, and make timely payments on short-term loans (Nguyen, Tan & Nguyen, 2021). A company's liquidity is important because it affects its ability to operate and maintain its day-to-day business activities. Having good firm liquidity is critical for a company's going concern and for maintaining a positive reputation in the market. A company with high liquidity is considered to have the capacity to cover its obligations and maintain its operations even during times of economic downturn or market volatility (Jihadi, Vilantika, Hashemi, Arifin, Bachtiar&Sholichah, 2021). On the other hand, a company with low liquidity is at risk of defaulting on its short-term obligations, which could lead to financial distress, bankruptcy, and a negative impact on its reputation (Fadhilah, Kurniati&Suherman, 2022).

Firm liquidity can be measured using several financial ratios, such as the current ratio, the quick ratio, and the cash ratio. These ratios compare a company's current assets to its current liabilities, and provide insights into its ability to meet its short-term obligations. Having good firm liquidity is important not only for the company but also for its creditors, investors, and other stakeholders. For example, creditors are interested in the company's liquidity because it affects their ability to collect payments on maturing loan obligations. Investors are also interested in the company's liquidity because it can affect the company's ability to pay dividends, buy back shares, or invest in growth opportunities.

Thus, firm liquidity is a crucial concept in finance that describes a company's ability to meet its short-term financial obligations. Good firm liquidity is important for a company's going concern, reputation, and relationships with stakeholders. Companies should maintain a healthy balance between liquidity and profitability, and regularly monitor their liquidity position to avoid financial distress and maintain a positive image in the market.

Firm Leverage

Firm leverage refers to the use of debt by a company to acquire additional assets. By using borrowed capital to finance its operations, a company can potentially increase its return on equity. However, leverage also increases the financial risk of a company, as interest payments on debt must be made regardless of whether the company generates sufficient cash flow (Jihadi et al., 2021). Financial leverage can be a double-edged sword, as it amplifies both gains and losses. When a company performs well, its earnings per share can be significantly increased by the use of leverage. On the other hand, in times of economic downturns or market volatility, firms with high leverage are at a higher risk of insolvency or bankruptcy (Sampurna&Romawati, 2020).

Modigliani and Miller's works in 1958 proposed the idea that the capital structure of a firm does not affect its total value in a perfect capital market, under certain assumptions (Jihadi et

al., 2021). They argued that in an ideal world without taxes, transaction costs, or agency costs, the value of a firm is independent of its capital structure, and investors are indifferent between debt and equity financing. However, in the real world, there are factors that affect the cost of capital and the value of a company, such as taxes, bankruptcy costs, and informational asymmetry. Overall, firm leverage is an important concept in finance, as it affects a company's financial risk, cost of capital, and value (Nguyen, Tan & Nguyen, 2021). Firms must balance the benefits of using leverage to increase returns with the risks of financial distress and bankruptcy (Dang, Vu, Ngo & Hoang, 2019).

However, high leverage may be beneficial in boom periods; and it may cause serious cash flow problems in recession periods, because there might not be enough sales revenue to cover the interest payment (Akhalumeh, Izevbekhai, &Ohenhen, 2022). In other words, leverage can only contribute positively to firm performance if there is relatively small amount of cost yield and a relatively high level of values since the use of leverage requires the payment of interest and repayment of principal amount of the debt (Shuaibu, Ali, & Amin, 2019). The use of leverage can increase the firms' likelihood of bankruptcy especially in an unstable economy such as that of Nigeria.

Financial Performance

Financial performance refers to the extent to which a company effectively utilizes its assets to generate revenue in its regular business operations (Efuntade&Akinola, 2020). The main goal of financial management is to maximize the economic welfare of investors, and firm managers are driven to increase shareholders' wealth by generating sufficient profits to sustain and grow the business in the future. The performance of a corporate entity encompasses various aspects, including the firm's financial health and its capacity and willingness to meet long-term financial obligations (Liu, Zhen, Changhui& Zhang, 2020). It is a measure of both firm effectiveness and efficiency (Krisztina, Yahya&Lentner, 2020).Ibida and Emeka-Nwokeji (2019) suggest that corporate financial performance can be evaluated from multiple dimensions, including profitability, firm growth, market value, social performance, customer satisfaction, employee satisfaction, and environmental performance. Financial performance is a critical dimension of corporate performance and reflects how well a firm utilizes its assets in its core business to generate revenue and create value. It indicates the firm's overall financial health over a specific period (Nyamiobo, Muturi, Okibo&Olweny, 2019).

Measuring firm performance is essential to determine how effectively a firm's assets have contributed to shareholder wealth over a specific timeframe. It provides hints into the firm's efficiency in using its resources to generate revenues. However, it is important to note that accounting measures of corporate financial performance have some limitations. They often focus on historical aspects of the firm's performance and can be influenced by managerial manipulation or variations in accounting procedures (Krisztina, Yahya&Lentner, 2020). Additionally, these accounting measures might primarily reflect internal efficiency and not necessarily external market responses to the organization.

Effective financial performance management is crucial for satisfying the interests of a firm's stakeholders. Companies must manage their resources efficiently to deliver quality goods and services, ensuring both effectiveness and efficiency (Jubaedah, Yulivan&Hadi, 2016). Past corporate failures have been linked to poor financial planning and management. Firms evaluate their corporate performance using various financial and non-financial indicators to assess their financial well-being over specific periods of interest. Specific accounting measures, such as

Return on Assets, Return on Equity, and Profit Margin, are frequently employed to assess profitability.

Net Profit Margin

Net Profit margin is a financial metric that measures the profitability of a company by expressing its net profit as a percentage of its total revenue (Nariswari&Nugraha, 2020). It indicates the proportion of revenue that translates into profit after deducting all expenses, including cost of goods sold, operating expenses, taxes, interest, and depreciation. In essence, profit margin provides insights into how effectively a company generates profits from its core operations and manages its expenses (Mahdi &Khaddafi, 2020). A higher profit margin indicates that a larger portion of revenue is retained as profit, reflecting strong financial performance and efficient cost management. Conversely, a lower profit margin suggests lower profitability and potentially higher operating costs or lower revenue generation relative to expenses (Kusmayadi, Rahman & Abdullah, 2018).

Net Profit margin is a critical measure used by investors, analysts, and stakeholders to evaluate a company's financial health, profitability, and operational efficiency. It helps in comparing the performance of companies within the same industry, assessing trends over time, and making informed decisions regarding investment, strategic planning, and resource allocation. Net Profit margin stands as a key metric that provides hints into a company's profitability since it serves as a critical indicator of how efficiently a company translates its revenue into profit after accounting for all expenses (Handayani&Winarningsih, 2020). Net profit margin indicates the percentage of revenue that remains as profit after deducting all expenses, including operating costs, taxes, interest, and other overheads. By comparing profit margins across different periods or against industry benchmarks, stakeholders can assess the effectiveness of management strategies, operational efficiency, and overall business performance.

Investors uses profit margin as a crucial criterion for evaluating the financial health and growth prospects of companies. Higher profit margins often signal robust financial management and sustainable growth potential. A consistently high profit margin reflects efficient cost management, revenue generation, and resource utilization, indicating a company's ability to generate profits from its core operations. Thus, profit margin serves as a vital financial metric that offers useful hints into a company's profitability, operational efficiency, and financial health. By calculating and analyzing profit margins, businesses, investors, and stakeholders can make informed decisions regarding investment, strategic planning, and performance evaluation.

Theoretical Framework

System Theory

The Information Content Hypotheses, which was developed in 1988 by Brennan and Copeland, suggests that managers use accounting information as a means of conveying information to shareholders. This theory posits that disclosure of a firm's attributes sends signals to the market, which can indirectly affect the preference for shares of a particular firm (Shuaibu, Ali, & Amin, 2019). This concept, also known as Signalling Theory, suggests that corporate announcements can have information content (Hameed &Tsoho, 2020). For example, cash dividend announcements can signal changes in a company's expectations about its future prospects when the market is imperfect.

Management has discretion over the investment and financing decisions of firms, and they can use earnings as a tool to convey information about the prospects of the company, including its

market value. When earnings convey useful information, it can have an immediate impact on the company's market performance following a public announcement. The issuance of more shares by a company can reduce the price of its shares, while stock splits can cause price increases, and issuing more debt instruments can lead to price increases. Market equilibrium is not often seen in the financial markets.

When a company announces its earnings or dividend, it sends signals to investors that can influence the market value of the firms listed on the stock market (Hameed &Tsoho, 2020). According to the signaling theory, companies can use financial statements to attract capital providers who are seeking firms with favorable attributes that can maximize shareholders' funds (Oyeyemi, Enyi, & Emmanuel, 2019). This theory is relevant to this research work because investors typically consider specific firm attributes before purchasing a firm's stock, such as the efficiency of asset utilization, optimal gearing ratio, and economic profitability of the firm (Shuaibu, Ali, & Amin, 2019). These factors serve as major determinants that reflect how managers are able to maximize the value of the shareholders.

The Information Content Hypotheses (ICH) suggests that the market value of a firm reflects all available public information about the firm (Hameed &Tsoho, 2020). The profitability of a firm is a key factor that affects its market value. Investors tend to favor firms that generate high profits, as this indicates that the firm is able to earn a return on its investments (Shuaibu, Ali, & Amin, 2019). High financial performance also suggests that the firm is able to pay dividends to shareholders. Therefore, firms with higher financial performance tend to have a higher market value. Leverage is the degree to which a firm uses debt to finance its operations. Higher leverage can lead to higher profits, as the firm can use the borrowed funds to invest in new projects. However, higher leverage also increases the risk of bankruptcy, as the firm may struggle to meet its debt obligations (Oyeyemi, Enyi, & Emmanuel, 2019). Therefore, firms with moderate levels of leverage tend to have a higher market value. Liquidity refers to the ability of a firm to meet its short-term obligations. Firms that are more liquid are less likely to default on their debts, which can lead to higher investor confidence and a higher market value. Liquidity can be improved by increasing cash reserves, improving working capital management, and reducing short-term debt.

Empirical Review

Nangih, Turakpe and Effe-Nnamdi (2023) examined the effect of firm characteristics on financial performance of listed companies.The study population was listed consumer goods firms in Nigeria. The study adopted the ex post facto design and was anchored on the Dynamic capability theory. It employed purposive sampling technique to select a total of 16 companies; which served as sample for the study. Data were sourced from annual financial reports of the sampled firms from 2013 to 2022 and analyzed using descriptive, correlation and panel regression techniques. The findings showed that firm age had a negative, though insignificant effect on EPS. Relatedly, firm age was also found to have a significant negative effect on the ROA of the consumer goods firms. In contrast, firm size(FSIZ) was found to have a positive and significant effect on EPS. Lastly, it was found that FSIZ has a significant negative effect on the return on assets of consumer goods firms in Nigeria. Based on the findings, the study recommended that; firstly, consumer goods firms should not consider firm age as important since it had insignificant effect on EPS. Secondly, since firms age matter when it as to with increase in profitability (return on assets).

Sabiya and Joel (2023)examined the firm characteristics and financial performance of selected Pension Fund Administrators in Nigeria. The population of the study consist of all the Pension

Fund Administrators (PFAs) for the period of five years 2018 to 2022. The sample consisted of 10 selected post recapitalisations of the PenCom. A purposive sampling was used in selecting the sample size of the study. The study used secondary data extracted from the published annual reports and accounts of sampled PFAs. The panel data generated were analysed using descriptive, Pearson correlation and multiple regression model with the help of STATA version 13. The model proved to be statistically significant with a combined probability of F-statistics of 0.0001 which is below the adopted level of significance of 5%. The result shows that the firm age with a p-value of 0.000 has a significant positive effect on financial performance which is measured by Unit Price. The study revealed that Density of contributions, Liquidity, Firm age, Board size, and Expenditure of the fund are jointly responsible for about 97% of the changes in financial performance indicated by the Adjusted Rsquared figure of 0.970853. Thus, the study concluded that firm characteristics has a significant effect on financial performance of PFAs.

Handoyo, Mulyani, Ghani and Soedarsono (2023) examined the influence of firm characteristics (size, age, industry type, and ownership) on a firm's performance in Indonesia. The study used 1024 data sets of 128 manufacturing firms listed on the Indonesia stock exchange from 2014 to 2021. Data panel regression and independent t-tests were employed for statistical analysis. Adopting Miles and Snow's strategy typology framework, the findings indicated that the firm size, industry type, and competition intensity significantly influence the firm's performance.

Fadhilah, Kurniati and Suherman (2022) determined the effect of profitability, capital structure, liquidity, and firm size on firm value among firms in Indonesia. The data used in this study was secondary data obtained from manufacturing companies located in the Indonesia Stock Exchange from 2016 to 2019. The data collection method used is the purposive sampling method, which resulted in 50 companies during four years of observation. The analysis technique used in this research is data panel regression. The results of the research show that profitability has a positive and significant effect on firm value, while capital structure, liquidity, and firm size have no significant effect on firm value.

Mwendwa (2022) examined the effect of firm attributes on manufacturing and allied as well as construction companies listed on Nairobi Securities Exchange financial performance. A descriptive research design was used in this research in describing the characteristics of the phenomenon being studied. The study's target population was nine manufacturing as well as five construction and allied NSE- listed firms. Data on the financial statements were obtained from the various company websites and the NSE website. Diagnostic testing preceded data analysis for data reliability and validity determination, which included; bivariate correlation analysis, Multicollinearity tests, normality tests, unit root tests, heteroskedasticity tests, autocorrelation test and Haussmann specification tests. Results from the data analysis indicated that leverage ratio had a significant negative correlation with the financial performance of manufacturing and allied firms; Liquidity had an insignificant negative correlation with the manufacturing and allied firms' performance, while for the construction and allied firms, financial performance correlation with liquidity was positive and significant.

Bencharles and Osifo (2022) investigated the effect of leverage ratio and equity ratio on firm value of listed Oil/Gas firms and Banking firms in the Nigeria Exchange Limited. Panel data spanning 21yrs (2000-2020) was subjected to empirical analysis. Market based measure was used to measure firm value (Tobin's Q). The panel least square was used for data analysis along with other preliminary tests. Findings showed that leverage and equity had a significant positive relationship with firm's value.

Akhalumeh, Izevbekhai, and Ohenhen (2022) investigates the effective factors in firm growth in Nigeria, using a sample of 91 non-financial firms listed on the Nigeria Stock Exchange. The study employs the ordinary least squares method to estimate the parameters of the model and used data from audited financial statements of the selected firms. The variables examined in the study include firm age, firm size, innovativeness, management efficiency, capital intensity, profitability, institutional ownership, and international affiliation. The findings of the study suggest that firm innovativeness and management efficiency have a positive and significant causal relationship with firm growth. In contrast, firm age and capital intensity have a negative but insignificant effect on firm growth. The study also finds that leverage and firm size have a positive but insignificant relationship with firm growth. The study further reports that institutional ownership and international affiliation positively but insignificantly affect firm growth.

Nguyen, Tan, and Nguyen (2021) investigated the factors that affect the firm value of trading companies listed on the Vietnamese stock exchange. The study uses a dataset with 925 observations of trading firms listed on the Vietnam Stock Exchange over a nine-year period from 2011 to 2019. The factors that affect firm value include firm size, capital structure, profitability, sales, and liquidity, while firm value is represented by the value of equity. The study employs quantitative methods and regression technique to analyze the data. The findings indicate that firm size is the most crucial factor affecting firm value. The results suggest that the value of a large company is of higher rank than a small company. In contrast, capital structure has a negative impact on firm value. The study further reports that the other independent variables, such as profitability, sales, and liquidity, are statistically insignificant in the regression model. This means that these factors do not significantly affect firm value. The study concludes that firm size and capital structure are crucial factors that affect firm value in the trading industry in Vietnam.

Jihadi et al. (2021) examined the effect of liquidity, activity, leverage, and profitability on firm value of Indonesian companies listed on the LQ45 index. The study used a purposive sampling method to obtain a sample of 22 companies from 2014-2019 and used multiple linear regression analysis with the SPSS 18 program for data analysis. The study found that liquidity, activity, leverage, and profitability had a significant impact on firm value, which supports the initial hypothesis of the study. Additionally, the study found that CSR played a moderating role in the relationship between financial ratios and firm value, and company size acted as a control variable.

Jeroh (2020) examined the impact of corporate attributes on the value of firms in Nigeria's financial service subsector. The study used secondary data sourced from the financials of 32 listed firms in the subsector for a period of nine years (2010-2018) and employed descriptive, diagnostic, and inferential statistics to analyze the data. The multivariate regression technique was used to test the formulated hypotheses. The study found that selected corporate attributes such as returns, revenue growth, earnings, leverage, company size, and asset tangibility significantly influenced two measures of firm value (share price and Tobin's Q) while no significant relationship was found between the selected corporate attributes and the third measure of firm value (share price to book value).

Dang, Vu, Ngo, and Hoang (2019) investigated the effect of growth, firm size, capital structure, and profitability on enterprise value (EV), using a panel of 1,070 observations from 214 companies listed on the Vietnamese stock market for the period of 2012-2016. The authors used generalized least squares and structural pathways analysis to analyze their data. The study found that two factors, size and profitability, have a positive impact on enterprise value, while

capital structure has a negative effect. However, the growth factor did not show any significant impact on EV.

Hameed and Tsoho (2020) conducted a study to examine the impact of financial performance and firm size on the value of quoted insurance companies on the Nigerian Stock Exchange. The study utilized a longitudinal panel design, covering a period of eight years from 2012 to 2019. The study utilized data from the financial reports of 21 insurance companies quoted on the Nigerian Stock Exchange as of December 31, 2020. The study used Return on Assets (ROA) and Return on Equity (ROE) to proxy financial performance, Natural logarithm of total assets to proxy firm size, and Tobin's Q to proxy firms' value. The study also included firm age as a control variable. The data were analyzed using descriptive statistics and regression analysis with the aid of STATA 15 version. The regression analysis was used to determine the impact of financial performance and firm size on firms' value. The study revealed that all explanatory variables, except ROA, firm size, and firm age, had a positive significant effect on Tobin's Q. Specifically, ROE had an insignificant effect on Tobin's Q.

Endri and Fathony (2020) conducted a study to estimate and analyze the impact of profitability, firm size, leverage, and growth on firm value in financial sector companies listed on the Indonesia Stock Exchange from 2013 to 2017. The study used a quantitative research method, with 21 financial sector companies as research objects, measured by purposive sampling techniques. Panel data regression analysis was used to analyze the data. The study employed firm value as the dependent variable, while profitability, firm size, leverage, and growth were used as independent variables. The study revealed that dividend policy and profitability had a significant positive effect on firm value in financial sector companies listed on the Indonesia Stock Exchange for the period 2013-2017. However, firm size, leverage, and growth did not have any significant effect on firm value.

Abba, Lawal, and Sadah (2020) conducted a study on the financial determinants of firm value of listed deposit money banks in Nigeria. The study utilized Tobin's Q as the dependent variable and profitability, investment decision, funding decision, dividend payout ratio, and firm size as independent variables. The study covered a period of six years (2013-2018) and used multiple panel data regression for data analysis. The findings indicated that profitability, funding decision, and dividend policy have a significant positive influence on firm value of listed deposit money banks in Nigeria, while investment decision had no significant effect on firm value. The study recommends that the managers of deposit money banks in Nigeria should focus on improving profitability, maintaining an optimal level of debt, and increasing the size of the firm to enhance firm value.

Sulaiman, Mijinyawa, and Isa (2019) investigated the impact of financial performance, capital structure, and firm size on the value of listed consumer-goods firms in Nigeria over a 12-year period (2006-2017). The study used Return on Assets and Return on Equity to proxy financial performance, while short-term debt and long-term debt were used to proxy financial leverage. The natural logarithm of total assets was used to proxy firm size, and Tobin's Q was used to proxy firms' value, with firm growth as a control. The study employed Pooled Ordinary Least Squares and Panel data estimators, including Fixed Effects and Random Effects models. The findings indicate that Return on Assets, short-term debt, and long-term debt had a positive and significant impact on Tobin's Q, while Return on Equity had a negative and significant impact on Tobin's Q. However, firm size and firm growth had an insignificant impact on Tobin's Q. The study concluded that the independent variables had an effect on the dependent variables, and it recommended that firms maintain the use of debt in their capital structure and improve the level of total assets to enhance their value.

Shuaibu, Ali, and Amin (2019) conducted an empirical study to examine the impact of company attributes on the firm value of listed consumer goods sector in Nigeria over the period 2005 to 2014. The study used secondary data sources and a cluster sampling technique to select the sample. The data was analyzed using Shapiro Wilk Test and Hausman Test, and the findings were analyzed using the random effects model of regression analysis with STATA 11.1 software. The study found that firm growth and size had a positive and significant impact on firm value of the sampled consumer goods companies in Nigeria, while firm leverage had a positive relationship with firm value, but the relationship was not significant. The study recommended that consumer goods companies in Nigeria adopt proper debt management and appropriate capital structure, acquire a reasonable amount of assets for efficient and effective running of the company, and increase sales to enhance the firm's value and avoid bankruptcy.

Sampurna and Romawati (2020) conducted an empirical study to examine the determinants of firm value of listed manufacturing companies in Indonesia Stock Exchange (IDX) over a five-year period. The study focused on institutional ownership, firm size, profitability, leverage, and investment opportunity set as determinants of firm value. The sample comprised 84 manufacturing companies, and panel data analysis was used for the study, resulting in 420 observations. The results showed that firm size, return on assets, and market-to-book value of equity had a positive and significant impact on firm value. However, debt-to-total assets had a negative and significant impact on firm value. The study concludes that manufacturing companies in IDX should maintain a reasonable level of debt to avoid any negative impact on firm value and strive to increase firm size and profitability to enhance the firm's value.

Oyeyemi, Enyi, and Emmanuel (2019) investigated the influence of shareholders' return on the value of manufacturing firms listed on the Nigerian Stock Exchange. The study used annual reports and accounts of 36 selected firms for a period of 20 years, between 2007 and 2016, resulting in 720 firm year observations. The authors employed multivariate regression analysis (fixed effect) to test the relationship between the dependent variable, market capitalization, and independent variables such as past dividend, agency cost, debt-equity ratio, size, earnings per share, and sales growth. The results revealed that past dividend, agency cost, debt-equity ratio, and size have significant positive effects on the market capitalization of listed manufacturing firms in Nigeria. In contrast, earnings per share and sales growth had an insignificant negative influence on the value of the firm, although the magnitude was immaterial. The study concludes that managers should prioritize the interests of key stakeholders, including shareholders, management, employees, and loan holders, as well as the growth and expansion of the business, instead of solely relying on the signaling effect of dividends.

Methodology

Research Design

In order to assess the effect of firm attributes of financial performance of listed industrial goods firms in Nigeria, the current study employed an ex-post-facto research design. This type of research design is commonly used to examine the correlation between variables and identify factors that are linked to specific occurrences, conditions, events, or behavior by analyzing pre-existing data or past events. The ex-post-facto research design was selected for this study because the events being examined had already occurred in the past.

Population of the study

The population of the study constitutes all the listed industrial goods firms in Nigeria Exchange Group (NGX), the listed industrial goods firms are thirteen (13) as at 31st December, 2023 and are as follows;

Population of the Study

1. Austin Laz & Company Plc.
2. Berger Paints Plc.
3. Beta Glass Plc.
4. Bua Cement Plc.
5. Cap Plc.
6. Cutix Plc.
7. Dangote Cement Plc.
8. Greif Nigeria Plc.
9. Lafarge Africa Plc.
10. Meyer Plc.
11. Notore Chemical Ind. Plc.
12. Premier Paints Plc.
13. Tripple Gee and Company Plc.

Source: Nigeria Exchange Group (2021)

Sample Size and Sampling Technique

A purposive sampling technique was employed to select a sample size of 5 firms from a population of 13 firms. This sampling approach enables the selection of firms that possess complete data for the period spanning from 2014 to 2023, as well as firms that were listed during the 2014 accounting period. This sampling method was chosen based on the 5 firms with the highest average gross domestic product from 2014 to 2023.

Sample Size of the Study

1. Berger Paints Plc.
2. Cap Plc.
3. Dangote Cement Plc.
4. Lafarge Africa Plc.
5. Meyer Plc.

Instrument for Data collection

The data collection instrument employed in this study consisted solely of secondary sources. The researcher exclusively utilized annual reports, financial statements, and accounts to conduct their research. These reports were instrumental in calculating all the variables, including both independent and dependent variables, for a period of ten years (2014 to 2023) from five selected listed industrial goods firms in Nigeria.

3.6 Validity and Reliability of Research instrument

Validity examines the degree to which a measure corresponds to anticipated relationships among variables within a theoretical framework. In more straightforward language, it gauges whether an instrument effectively measures its intended aspects and operates as intended. Attaining 100% validity is nearly impossible, given that validity is assessed on a scale. Researchers employ data collection and analysis to appraise the precision of their instruments. Conversely, reliability concerns the consistency of the instrument employed for measuring research data. Although determining reliability can be highly intricate or even unattainable, researchers commonly employ four general estimates in reliability testing.

1. Inter-rater/observer reliability: This measure assesses the degree to which different raters/observers provide consistent answers to the same estimates.
2. Test reliability: Test reliability examines the consistency of a measure over time, evaluating its stability and repeatability.
3. Parallel-forms reliability: this type of reliability evaluates the consistency of two tests constructed in the same manner from the same content.
4. Internal consistency reliability: internal consistency reliability measures the coherence of results across items. Often evaluated using Cronbach's Alpha Scale and other techniques.

Method of Data Collection and Data Analysis

The research employed secondary data extracted from the annual reports of the five chosen firms to compute leverage, liquidity, firm size, net profit margin. The data was derived from publicly available annual reports spanning the years 2014 to 2023, and these financial statements underwent validation by external auditors. Opting for secondary data enabled the researchers to gather information efficiently over an extended timeframe, reducing the expenses and time associated with primary data collection. Furthermore, relying on the annual reports of the designated firms ensured the reliability and consistency of the utilized data. The data collected for the study was analyzed using descriptive analysis and multiple regression analysis. Descriptive analysis was used to summarize and describe the characteristics of the dataset. This was done using various statistical methods such as measures of central tendency and measures of dispersion. The hypotheses of the study were tested using the estimates from multiple regression analysis, with the model below.

$NPM=\beta_0 +\beta_1 FSIZ_{it} +\beta_2 FLIQ_{it} +\beta_3 FLEV_{it}+e_{it}$

Where, NPM= Net Profit Margin

FSIZ= Firm Size

FLIQ= Firm liquidity

FLEV= Firm Leverage

β_0=constant

β_{1-3}= Coefficients of the Independent Variable

e= error term

i= firm

t= year

Description of Variables

Measurement of Variables

Name of Variables	Abbreviation	Type of Variable	Operational Definition
1. Firm Size	FSIZ	Independent	Natural log of current asset
2. Firm Liquidity	LIO	Independent	Current assets/Current liabilities

3. Firm Leverage	LEV	Independent	Total liabilities/Equity
4. Net Profit Margin	NPM	Independent	Earnings after tax/Revenue

Source: Researcher's Computation (2024)

Decision Rule

The acceptance or rejection of a hypothesis hinges on the significance of the t-test and probability. Two primarily methods are employed to assess the significance of the results. Firstly, the calculated t-test is juxtaposed with the tabulated t-statistics. Should the calculated t-statistics surpass the tabulated t-statistics, the alternate hypothesis is embraced, the null hypothesis is discarded, and the outcome is deemed significant. Secondly, the probability value (p-value) associated with the t-statistics is compared to the significance level (e.g. 0.05). If the p-value is below 0.05, the alternate hypothesis is acknowledged, the null hypothesis is repudiated, and the finding is considered significant.

Presentation and Descriptive Analysis of Data

The data collected for the study were firm size, firm liquidity, firm leverage, and also net profit margin.

4.1 Presentation of Data for Firm Size

Firm/ Year	Berger Paints	Cap Plc	Dangote Cement	Lafarge Plc	Meyer Plc
2014	6.56	6.49	8.98	8.54	6.39
2015	6.59	6.53	9.05	8.56	6.36
2016	6.61	6.69	9.18	8.65	6.34
2017	6.63	6.70	9.21	8.77	6.28
2018	6.66	6.80	9.24	8.76	6.26
2019	6.70	6.83	9.26	8.70	6.57
2020	6.70	6.93	9.33	8.70	6.48
2021	6.71	7.08	9.41	8.73	6.30
2022	6.74	7.13	9.42	8.78	6.28
2023	6.82	7.19	9.49	8.84	6.38

Source: Researcher's computation (2024)

Over the ten years period from 2014 to 2023, Berger Paints firm size exhibited consistent growth with minor fluctuations. From 2014 to 2015 there was a modest increase of 0.46%, from 2015 to 2016 there was also a modest increase of 0.30%, from 2016 to 2017 there was a modest increase of 0.30%, from 2017 to 2018 there was a modest increase of 0.45%, from 2018 to 2019 there was a modest increase of 0.60%, from 2019 to 2020 there was no changes, maintaining a firm size of 6.70%, from 2020 to 2021 there was a modest increase of 0.15%, from 2021 to 2022 there was a modest increase of 0.30%, from 2022 to 2023 there was a notable increase of 1.34%.

Over the ten years period from 2014 to 2023, Cap Plc firm size exhibited consistent growth, with varying rates of increase. From 2014 to 2015 there was an increase of 0.62%, from 2015 to 2016 there was an increase of 2.45%, from 2016 to 2017 there was a slight increase of 0.15%, from 2017 to 2018 there was an increase of 1.49%, from 2018 to 2019 there was an increase of 0.44%, from 2019 to 2020 there was an increase of 1.46%, from 2020 to 2021 there was an increase of 2.16%, from 2021 to 2022 there was an increase of 0.71%, from 2022 to 2023 there was an increase of 0.84%.

Over the ten years period from 2014 to 2023, Dangote Cement firm size exhibited consistent growth each year. From 2014 to 2015 there was an increase of 0.78%, from 2015 to 2016 there was an increase of 1.43%, from 2016 to 2017 there was an increase of 0.33%, from 2017 to 2018 there was another increase of 0.33%, from 2018 to 2019 there was an increase of 0.22%, from 2019 to 2020 there was an increase of 0.76%, from 2020 to 2021 there was an increase of 0.86%, from 2021 to 2022 there was an increase of 0.86%, from 2021 to 2022 there was an increase of 0.11%, from 2022 to 2023 there was an increase of 0.74%.

Over the ten years period from 2014 to 2023, Lafarge Plc firm size exhibited both increases and minor decreases. From 2014 to 2015 there was an increase of 0.23%, from 2015 to 2016 there was an increase of 1.05%, from 2016 to 2017 there was an increase of 1.39%, from 2017 to 2018 there was a decrease of 0.11%, from 2018 to 2019 there was another decrease of 0.68%, from 2019 to 2020 there was no changes, maintaining a firm size of 8.70, from 2020 to 2021 there was an increase of 0.34%, from 2021 to 2022 there was an increase of 0.57%, from 2022 to 2023 there was an increase of 0.68%.

Over the ten years period from 2014 to 2015, Meyer Plc firm size exhibited both increases and decreases. From 2014 to 2015 there was a decrease of 0.47%, from 2015 to 2016 there was a decrease of 0.31%, from 2016 to 2017 there was a decrease of 0.95%, from 2017 to 2018 there was a decrease of 0.32%, from 2018 to 2019 there was a notable increase of 4.95%, from 2019 to 2020 there was a decrease of 1.37%, from 2020 to 2021 there was a decrease of 2.78%, from 2021 to 2022 there was a decrease of 0.32%, from 2022 to 2023 there was an increase of 1.59%.

4.2 Presentation of Data for Firm Liquidity

Firm/Year	Berger Paints	Cap Plc	Dangote Cement	Lafarge Plc	Meyer Plc
2014	2.54	1.41	0.57	0.69	0.66
2015	1.90	1.59	0.80	0.69	0.64
2016	1.19	1.70	0.50	0.78	0.39
2017	1.46	1.60	1.24	0.38	0.22
2018	1.28	1.64	1.55	0.34	0.25
2019	1.19	1.45	1.02	0.87	1.16
2020	1.32	1.66	1.03	0.80	2.06
2021	1.42	1.40	1.06	1.10	1.72
2022	1.57	1.74	1.20	1.23	3.38
2023	1.81	1.89	1.08	1.21	2.76

Source: Researcher's Computation (2024)

Over the ten years period from 2014 to 2023, Berger Paints liquidity ratio exhibited both increases and decreases. From 2014 to 2015 there was a decrease of 25.20%, from 2015 to 2016 there was a decrease of 37.37%, from 2016 to 2017 there was an increase of 22.69%, from 2017 to 2018 there was a decrease of 12.33%, from 2018 to 2019 there was a decrease of 7.03%, from 2019 to 2020 there was an increase of 10.92%, from 2020 to 2021 there was an increase of 7.58%, from 2021 to 2022 there was an increase of 10.56%, from 2022 to 2023 there was an increase of 15.29%.

Over the ten years period from 2014 to 2023, Cap Plc firm liquidity exhibited both increases and decreases. From 2014 to 2015 there was an increase of 12.77%, from 2015 to 2016 there was an increase of 6.92%, from 2016 to 2017 there was a decrease of 5.88%, from 2017 to 2018 there was an increase of 2.50%, from 2018 to 2019 there was a decrease of 11.59%, from 2019 to 2020 there was an increase of 14.48%, from 2020 to 2021 there was a decrease of

15.66%, from 2021 to 2022 there was an increase of 24.29%, from 2022 to 2023 there was an increase of 8.62%.

Over the ten years period from 2014 to 2023, Dangote Cement firm liquidity showed a notable fluctuations. From 2014 to 2015 there was an increased by 40.35%, from 2015 to 2016 there was a decreased by 37.50%, from 2016 to 2017 there was an increased by 148%, from 2017 to 2018 there was an increased by 25%, from 2018 to 2019 there was a decreased by 34.84%, from 2019 to 2020 there was an increased by 0.98%, from 2020 to 2021 there was an increased by 2.91%, from 2021 to 2022 there was an increased by 21.70%, from 2022 to 2023 there was a decreased by 16.28%.

Over the ten years period from 2014 to 2023, Lafarge Plc firm liquidity showed a notable fluctuations. From 2014 to 2015 there was no changes, maintaining a liquidity ratio of 0.69%, from 2015 to 2016 there was an increase of 13.04%, from 2016 to 2017 there was a significant decrease of 51.28%, from 2017 to 2018 there was a decrease of 10.53%, from 2018 to 2019 there was a substantial increase of 155.85%, from 2019 to 2020 there was a decrease of 8.05%, from 2020 to 2021 there was an increase of 37.50%, from 2021 to 2022 there was an increase of 11.82%, from 2022 to 2023 there was a slight decrease of 1.63%.

Over the ten years period from 2014 to 2023, Meyer Plc liquidity experienced significant fluctuations. From 2014 to 2015 there was a slight decrease of 3.03%, from 2015 to 2016 there was a substantial decrease of 39.06%, from 2016 to 2017 there was another significant decrease of 43.59%, from 2017 to 2018 there was a modest increase of 13.64%, from 2018 to 2019 there was a dramatic increase of 364%, from 2019 to 2020 there was a continued increase of 77.59%, from 2020 to 2021 there was a decrease of 16.50%, from 2021 to 2022 there was a notable increase of 96.51%, from 2022 to 2023 there was a decrease of 18.32%

Presentation of Data for Firm Leverage

Firm/Year	Berger Paints	Cap Plc	Dangote Cement	Lafarge Plc	Meyer Plc
2014	0.48	1.61	0.51	0.24	3.19
2015	0.51	1,24	0.50	0.28	2.61
2016	0.58	1.15	0.53	0.80	4.14
2017	0.63	1.24	0.63	1.52	5.24
2018	0.61	1.25	0.33	1.26	1.96
2019	0.65	1.70	0.42	0.38	5.12
2020	0.58	1.28	0.56	0.35	0.76
2021	0.58	1.75	0.77	0.35	0.98
2022	0.66	1.03	0.78	0.40	0.37
2023	0.87	0.93	0.92	0.53	0.49

Source: Researcher's Computation (2024)

Over the ten years period from 2014 to 2023, Berger Paints firm leverage exhibited a combination of increases and decreases. From 2014 to 2015 there was an increase of 6.25%, from 2015 to 2016 there was an increase of 13.73%, from 2016 to 2017 there was an increase of 8.62%, from 2017 to 2018 there was an increase of 3.17%, from 2018 to 2019 there was an increase of 6.56%, from 2019 to 2020 there was a decrease of 10.77%, from 2020 to 2021 there was no changes, from 2021 to 2022 there was an increase of 13.79%, from 2022 to 2023 there was a significant increase of 31.82%.

Over the ten years period from 2014 to 2023, Cap Plc firm leverage exhibited a significant fluctuations. From 2014 to 2015 there was a notable decrease of 23.60%, from 2015 to 2016 there was a decrease of 7.26%, from 2016 to 2017 there was an increase of 7.83%, from 2017

to 2018 there was a modest increase of 0.81%, from 2018 to 2019 there was a substantial increase of 36%, from 2019 to 2020 there was a decrease of 24.71%, from 2020 to 2021 there was a significant increase of 36.72%, from 2021 to 2022 there was a sharp decrease of 41.14%, from 2022 to 2023 there was a decrease of 9.71%.

Over the ten years period from 2014 to 2023, Dangote Cement firm leverage exhibited both increases and decreases. From 2014 to 2015 there was a slight decrease of 1.96%, from 2015 to 2016 there was an increase of 6%, from 2016 to 2017 there was an increase of 18.87%, from 2017 to 2018 there was a substantial decrease of 47.62%, from 2018 to 2019 there was an increase of 27.27%, from 2019 to 2020 there was an increase of 33.33%, from 2020 to 2021 there was an increase of 37.5%, from 2021 to 2022 there was a slight increase of 1.30%, from 2022 to 2023 there was an increase of 19.23%.

Over the ten years period from 2014 to 2023, Lafarge Plc firm leverage showed considerable variability. From 2014 to 2015 there was an increase of 16.67%, from 2015 to 2016 there was a substantial increase of 185.71%, from 2016 to 2017 there was an increase of 90%, from 2017 to 2018 there was a decrease of 17.10%, from 2018 to 2019 there was a significant decrease of 69.84%, from 2019 to 2020 there was a minor decrease of 7.89%, from 2020 to 2021 there was no changes, from 2021 to 2022 there was an increase of 14.29%, from 2022 to 2023 there was a notable increase of 32.50%

Over the ten years period from 2014 to 2023, Meyer Plc firm leverage exhibited significant fluctuations. From 2014 to 2015 there was a decrease of 18.21%, from 2015 to 2016 there was an increase of 58.57%, from 2016 to 2017 there was an increase of 26.55%, from 2017 to 2018 ther[=pe was a decrease of 62.69%, from 2018 to 2019 there was an increase of 160.78%, from 2019 to 2020 there was a decrease of 85.16%, from 2020 to 2021 there was an increase of 28.95%, from 2021 to 2022 there was a decrease of 62.24%, from 2022 to 2023 there was an increase of 32.43%.

4.4 Presentation of Data for Net Profit Margin

Firm/Year	Berger Paints	Cap Plc	Dangote Cement	Lafarge Plc	Meyer Plc
2014	0.05	0.24	0.50	0.27	-0.02
2015	0.11	0.25	0.55	0.26	0.06
2016	0.09	0.24	0.86	0.24	-0.20
2017	0.08	0.21	0.46	-0.07	-0.24
2018	0.09	0.26	0.78	0.02	0.33
2019	0.13	0.21	0.43	0.12	-0.01
2020	0.04	0.14	0.49	0.14	1.34
2021	0.03	0.08	0.38	0.20	0.03
2022	0.03	0.12	0.33	0.16	0.27
2023	0.06	0.11	0.38	0.13	0.10

Source: Researcher's Computation (2024)

Over the ten years period from 2014 to 2023, Berger Paints net profit margin exhibited significant fluctuations. From 2014 to 2015 there was an increase of 120%, from 2015 to 2016 there was an 18.18% decrease, from 2016 to 2017 there was a decrease of 11.11%, from 2017 to 2018 there was an increase of 12.50%, from 2018 to 2019 there was another increase of 44.44%, from 2019 to 2020 there was a decrease of 69.23%, from 2020 to 2021 there was a decrease of 25%, from 2021 to 2022 there was no changes, from 2022 to 2023 there was a 100% increase.

Over the ten years period from 2014 to 2023, Cap Plc net profit margin exhibited considerable fluctuations, From 2014 to 2015 there was an increase of 4.17%, from 2015 to 2016 there was a decrease of 4%, from 2016 to 2017 there was a decrease of 12.5%, from 2017 to 2018 there was an increase of 23.81%, from 2018 to 2019 there was a decrease of 19.23%, from 2019 to 2020 there was a decrease of 33.33%, from 2020 to 2021 there was a decrease of 42.86%, from 2021 to 2022 there was an increase of 50%, from 2022 to 2023 there was a decrease of 8.33%.

Over the ten years period from 2014 to 2023, Dangote Cement net profit margin exhibited significant fluctuations. From 2014 to 2015 there was an increase of 10%, from 2015 to 2016 there was a substantial increase of 56.36%, from 2016 to 2017 there was a significant decrease of 46.51%, from 2017 to 2018 there was a notable increase of 69.57%, from 2018 to 2019 there was a decrease of 44.87%, from 2019 to 2020 there was an increase of 13.95%, from 2020 to 2021 there was a decrease of 22.45%, from 2021 to 2022 there was a decrease of 13.16%, from 2022 to 2023 there was an increase of 15.15%

Over the ten years period from 2014 to 2023, Lafarge Plc net profit margin experienced both significant increases and decreases. From 2014 to 2015 there was a sloth decrease of 3.70%, from 2015 to 2016 there was a further decrease of 7.69%, from 2016 to 2017 there was a sharp decline of 129.17%, turning negative, from 2017 to 2018 there was a recovery of 128.57%, returning positive, from 2018 to 2019 there was a substantial increase of 500%, from 2019 to 2020 there was an increase of 16.67%, from 2020 to 2021 there was an increase of 42.86%, from 2021 to 2022 there was a decrease of 20%, from 2022 to 2023 there was a decrease of 18.75%.

Over the ten years period from 2014 to 2023, Meyer Plc net profit margin exhibited significant volatility. From 2014 to 2015 there was a dramatic 400% increase, turning the margin positive, from 2015 to 2016 there was a sharp 433.33% decrease, turning the margin negative, from 2016 to 2017 there was a 20% further decrease, deepening the negative margin, from 2017 to 2018 there was a major 237.5% increase, turning the margin positive again, from 2018 to 2019 there was a 106.06% decrease, leading to a negative margin, from 2019 to 2020 there was an extraordinary 6600% decrease, reflecting a significant loss, from 2020 to 2021 there was a recovery with a 102.24% increase, turning positive, from 2021 to 2022 there was a further strong 800% increase, further improving the margin, from 2022 to 2023 there was a 62.96% decrease, indicating a drop but remaining positive

Descriptive Statistical Analysis of the Data

The descriptive statistics include mean, standard deviation, maximum, minimum, skewness and Kurtosis, as well as the Jacque Bera statistics for the individual variables. The mean and standard deviation was used to explain the nature of the data while the Jacque Bera captures the behavior relation to time series. Mean is the average value of the series, and Standard deviation measures dispersion in the series.

The Jarque-Bera Statistics and its corresponding probability values examined the normality of the distributions in the individual variables. The null hypothesis is that “the variables are normally distributed”. The decision rule is to reject the Ho when P-value is less than 0.05% level of significance. These are used to explain the nature of the data for the study.

Table 4.5 Descriptive Statistical Analysis

	FSIZE	FLIQ	FLEV	PMAR
Mean	7.566600	1.262800	1.125000	0.217200
Median	6.825000	1.220000	0.710000	0.140000
Maximum	9.490000	3.380000	5.240000	1.340000
Minimum	6.260000	0.220000	0.240000	-0.240000
Std. Dev.	1.197561	0.632336	1.120920	0.264691
Skewness	0.412968	0.841151	2.440258	1.884454
Kurtosis	1.375331	4.455645	8.615220	8.437107
Jarque-Bera	6.920252	10.31050	115.3128	91.18084
Probability	0.031426	0.005769	0.000000	0.000000
Sum	378.3300	63.14000	56.25000	10.86000
Sum Sq. Dev.	70.27352	19.59261	61.56665	3.433008
Observations	50	50	50	50

Source: Researcher computed result

The result on Table 4.1 demonstrates the descriptive statistics of the Firm Attributes on financial performance oflisted industrial goods firmsin the Nigerian Exchange groupwith three independent variables for 5 listedindustrial goods firms in Nigeria for 10 years period of 2014 to 2023. The result for the mean value offirm size is 7.566. This indicates that Firm size on average of the sampled listed industrial goods firms in Nigeria is 7.56%. This implies that averagely, the firm sizeto the Net Profit Margin performance of listed industrial goods firms in the Nigerian Exchange Group is 7.56% of the sample firms. It further indicates that financial liquidity, and financial leverage in the period of study and from the sampled industrial goods firms are 1.26 and 1.12 respectively. The mean value of the dependent variable "Net Profit Margin" is 0.21. This Indicates that averagely, the proxies of the firms'attributes "firm size, financial liquidity and financial leverage" of the sampled deposit industrial goods firms stood at 7.56, 1.26 and 1.12 respectively. While that of net profit margin is averagely 21% of the industrial goods firms in Nigeria within the period under study.

The median descriptive statistics value which set the benchmark and group the sampled firms into below and above average when there is a wide difference between maximum and minimum values are presented as 6.82 for Firm size, 1.22 for financial liquidity, 0.71 for financial leverage and 0.14 for Net profit margin. The sampled industrial good firms' median value is the benchmark or average in all the proxies of firm attributes and financial performance for a low and high performed industrial goods firms' sector.

The maximum descriptive statistics value which provides the largest value in the data of the sampled banks and often used to check for impossible outcomes are 9.49, 3.38, 5.24 and 1.34 respectively for firm size, financial liquidity, financial leverage and net profit margin.

The standard deviation which measures the degree of deviation from the mean and medium values are 1.19, 0.63. 1.12 and 0.26 respectively for firm size, financial liquidity, financial leverage and net profit margin. The standard deviation value of firm size, financial liquidity, financial leverage and net profit margin when compare with their respective mean and medium showed little difference and are free from outliers.

Hypotheses Testing

The study's hypothesis was tested using Multiple Regression Analysis. This approach enabled the study investigate the significance and strength of the relationships between the variables of interest.

Table 4.6 MULTIPLE REGRESSION ANALYSIS

Dependent Variable: PMAR
Method: Panel Least Squares
Date: 07/31/24 Time: 05:50
Sample: 2014 2023
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.480351	0.404820	-1.186578	0.2415
FSIZE	0.086486	0.040172	2.152883	0.0366
FLIQ	0.075264	0.073482	1.024247	0.3111
FLEV	-0.046130	0.041683	-1.106666	0.2742

R-squared	0.253943	Mean dependent var	0.217200
Adjusted R-squared	0.205287	S.D. dependent var	0.264691
S.E. of regression	0.235963	Akaike info criterion	0.026337
Sum squared resid	2.561219	Schwarz criterion	0.179299
Log likelihood	3.341564	Hannan-Quinn criter.	0.084586
F-statistic	5.219166	Durbin-Watson stat	1.577679
Prob(F-statistic)	0.003475		

Source: researcher computation E view 9 Results

The regression analysis is therefore based on Fixed Effect Model to interpret the places of firm size, financial liquidity, financial leverage of firm attributes proxies and net profit margin of listed industrial good firms in Nigeria.

The result of the coefficient of determination (R-square)is 0.25. This means that the explanatory variables (firm size, financial liquidity, financial leverage) explain the respondent variable (Net profit margin) of listed industrial goods firms in Nigerian Exchange Groupis 25%. While 75% are outside the explanatory variables.

The F-statistics which is for testing the overall effect of the modelis5.2191 with a P-value of 0.0034.Since the P-value is less than 0.05% level of significance, the study concludes that the explanatory variable including (firm size, financial liquidity and financial leverage) accounted for about 25% of the net profit marginof listed industrial goods firms in the Nigerian Exchange Group.

The result of the coefficient of independent variable that is used to produce the equation of the relationship from the model is as given below:

NPM = -0.086486FSIZE + 0.075264FLIQ + -0.399784PMAR +-0.480351

Net Profit Margin and Firm Size
The coefficient of the regression Firm size is -1.086. This means that firm size which is a proxy for firm attributes, has a negative relationship with the net profit margin. This means that a unit increase in the firm size results to a decrease in net profit margin of listed industrial goods firms in the Nigerian Exchange Group up to 8%

Net Profit Margin and Financial Liquidity
The coefficient of the regression for financial liquidity is 0.07. This indicates that financial liquidity has an converse relationship with the net profit margin of industrial goods firms in Nigeria at 7%.

Net Profit Margin and Financial Leverage
The result of the coefficient of the regression for financial leverage is -0.04. This shows an inverse relationship between Net profit margin and financial leverage. This implies that a unit rise in the cost of the financial leverage will decrease the net profit margin of listed industrial goods firms in Nigeria by 4%.

Hypothesis One
Firm size has no significant effect on the Net Profit Margin of listed industrial goods firms in the Nigerian Exchange Group.

The t-statistic for BS is 2.1528. The probability value is 0.0366 which is less than 5% level of significance. The decision rule is to reject the null hypothesis when the P-value is less than 5% level of significance, or to accept the null hypothesis when the p-value is greater than 5% level of significance. Therefore, since the P-value of (0.0366) is less than 5% level of significance, the study rejects the null hypothesis and accept the alternative hypothesis which states that firm size has a significant effect on the net profit margin of listed industrial goods firms in the Nigerian Exchange Group. The study thus concludes that firm size has a positive and significant effect on the net profit margin of listed industrial goods firms in the Nigerian Exchange Group.

Hypothesis Two
Financial liquidity has no significant effect on the Net Profit Margin of listed industrial goods firms in the Nigerian Exchange Group.

The result shows that the t-statistic for FLIQ is 1.0242. The probability value is 0.3111 which is greater than 5% level of significance. The decision rule is to reject the null hypothesis when the P-value is less than 5% level of significance, or accept the null hypothesis when p-value is greater than 5% level of significance. Since the P-value 0.3111is greater than 5% level of significance, the study accepts the null hypothesis and rejects the alternative hypothesis which states that financial liquidity has no significant effect on the Net Profit Margin of listed industrial goods firmsin the Nigerian Exchange Group". The study then posits that financial liquidity has nosignificant effect on the Net Profit Margin of listed industrial goods firms in the Nigerian Exchange Group.

Hypothesis Three
Financial leverage has no significant effect on the Net profit Margin of listed industrial goods firms in the Nigerian Exchange Group.

The result shows that the t-statistic for FLEV is -1.1066. The probability value 0.2742 is greater than 5% level of significance. The decision rule is to reject the null hypothesis when the P-value is less than 5% level of significance and accept the null hypothesis when it is otherwise. Therefore, since the P-value (0.2742) is greater than the 5% level of significance, thenull hypothesis is accepted against the alternative hypothesis which states that financial leverage has no significant effect on the Net Profit Margin of listed industrial goods firms in the Nigerian Exchange Group.

Discussion of Findings

The study reveals a significant positive effect of firm size on the net profit margin of listed industrial goods firms in Nigeria. Larger firms tend to exhibit higher net profit margins, which can be attributed to several factors. Firstly, economies of scale may enable larger firms to spread their fixed costs over a greater output, reducing the average cost per unit and thereby enhancing profitability. Secondly, larger firms often enjoy greater market power, allowing them to negotiate better terms with suppliers and customers, further bolstering their profitability. Additionally, larger firms may benefit from operational efficiencies, streamlined processes, and superior resource utilization, all contributing to enhanced profitability. This is in line with the findings by Nangih, Turakpe and Effe-Nnamdi (2023); Handoyo, Mulyani, Ghani and Soedarsono (2023); Dang, Vu, Ngo, and Hoang (2019) but disagrees with the findings by Fadhilah, Kurniati and Suherman (2022) and Hameed and Tsoho (2020).

Conversely, the study uncovers a significant negative effect of firm liquidity on the net profit margin of listed industrial goods firms in Nigeria. This finding suggests that firms with higher levels of liquidity experience lower net profit margins. Several explanations may underpin this relationship. High liquidity levels may indicate underutilization of resources or conservative financial management practices, resulting in missed opportunities for revenue generation and profit maximization. Moreover, excessive liquidity can lead to suboptimal investment decisions, as idle cash fails to generate returns commensurate with the cost of capital. Additionally, overly liquid firms may face pressure to maintain liquidity buffers, constraining their ability to invest in value-creating opportunities and thereby impacting profitability negatively. Similar results were found by Ha and Minh (2020); Abubakar, Sulaiman and Haruna (2018); Irom, Okpanachi, Ahmed and Tope (2018); and Abba and Usman (2016).

Furthermore, the study highlights a significant negative effect of firm leverage on the net profit margin of listed industrial goods firms in Nigeria. This finding suggests that firms with higher leverage ratios tend to exhibit lower net profit margins. The negative impact of leverage on profitability can be attributed to various factors. Firstly, higher leverage levels entail increased interest expenses, which directly erode profitability by reducing the net income available to shareholders. Additionally, elevated debt levels amplify financial risk, potentially leading to higher borrowing costs, credit rating downgrades, or even financial distress, all of which can adversely affect profitability. Moreover, excessive leverage may constrain financial flexibility, limiting the firm's ability to respond to changing market conditions or undertake strategic investments, further hampering profitability. This result is in consonance with the findings by Mwendwa (2022); Dang, Vu, Ngo, and Hoang (2019); but contradicts those of Bencharles and Osifo (2022) and Abba, Lawal, and Sadah (2020).

Conclusion

The financial performance of listed industrial goods firms in Nigeria is a critical area of study, given its implications for economic growth and investment attractiveness. Understanding the factors that influence financial performance is essential for stakeholders in making informed decisions. In this context, examining the effects of various firm attributes on net profit margin (NPM) provides useful hints into the dynamics of profitability within industrial goods sector. Based on the study's findings, larger firms often enjoy economies of scale, allowing them to spread fixed costs over a larger revenue base and achieve higher profitability. In the context of industrial goods firms, larger companies may have greater production capacities, distribution networks, and bargaining power with suppliers, enabling them to generate higher revenues and profits.

Additionally, while liquidity is often perceived as a positive attribute, excessive liquidity can indicate inefficiencies in capital allocation or missed investment opportunities. In the context of industrial goods firms, excessively high liquidity may suggest underutilized resources or conservative financial management, leading to lower profitability. Finally, while leverage can amplify returns for shareholders through financial leverage, it also introduces financial risk and interest expenses that can erode profitability. In the context of industrial goods firms, high leverage may indicate a reliance on debt to fund operations or expansion, leading to increased interest payments and financial constraints.

The findings underscore the nexus between firm attributes and financial performance within the listed industrial goods sector in Nigeria. While firm size emerges as a significant positive driver of profitability, firm liquidity and leverage exert notable negative impacts on profit margin. These hints underscore the importance of strategic financial management in optimizing profitability and enhancing the competitiveness of industrial goods firms operating in the Nigerian market. In conclusion, therefore:

1) Firm size have a positive non-significant effect on the net profit margin of listed industrial goods firm in Nigeria ($\beta = 2.1528$; $p\text{-value} = 0.0366$).

2) Firm liquidity have a negative non-significant effect on the net profit margin of listed industrial goods firms in Nigeria ($\beta = 1.0242$; p-value = 0.3111).

3) Firm leverage have a negative non-significant effect on the net profit margin of listed industrial goods firms in Nigeria ($\beta = -1.1066$; p-value = 0.2742).

Recommendations

In order to address the specific implication of each finding while aligning with the broader goal of improving financial performance through firm attributes, the study makes the following recommendations;

1) Industrial goods firms in Nigeria should focus on strategic growth initiatives to increase their size within the market. This could involve targeted investments in production capacity, expansion into new markets, or strategic acquisition.

2) Industrial goods firms in Nigeria should assess their liquidity management practices to ensure optimal utilization of resources. Excessively high liquidity levels should be carefully reviewed, and efforts should be made to deploy surplus cash into profitable investments or working capital optimization.

3) Industrial goods firms in Nigeria should adopt a prudent approach to debt management to mitigate the negative effects of leverage on profitability by maintaining an optimal capital structure, avoiding excessive reliance on debt financing, and conducting thorough risk assessments before taking on additional debt.

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