

CURRENT ASSETS INVESTMENT AND FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT

Efficient investment in current assets is a crucial factor in enhancing the financial performance of industrial goods manufacturing firms which in turn can reposition the sector to contribute significantly to the growth of Nigerian economy. To that end, this study investigated the relationship between current assets investment and financial performance of listed industrial goods manufacturing firms in Nigeria. The study sought to ascertain the relationship between inventories and return on assets, investigate the relationship between trade receivable and return on assets, and investigate the relationship between cash and cash equivalent and return on assets. Three research questions and three hypotheses guided the study. The study was an ex-post facto research design. The population of the study was nine (9) listed industrial goods manufacturing firms in the Nigerian Exchange Group were sampled to five (5) using purposive sampling technique. The data used in this study were sourced from annual reports and statement of accounts of the selected firms between 2010 and 2020. The method of data analysis was descriptive statistic and multiple regression of Ordinary Least Square (OLS) with the help of E-view. The empirical findings showed that, there was a negative and significant relationship between inventories and return on assets, there is a positive and insignificant relationship between trade receivable and return on assets, there is a positive and significant relationship between cash and cash equivalent and return on assets of listed industrial goods firms in Nigeria for the period 2011 to 2020 in Nigeria. Therefore, the study concluded that, there is a positive and significant relationship between current assets investment and financial performance of listed industrial goods manufacturing firms in Nigeria. The study recommended amongst others that, firms should invest more on inventories because the empirical evidence indicated that it has significant return to shareholders.

Keyword: Current assets Investment, Inventories, Trade receivable, Cash and cash equivalent and return on assets

INTRODUCTION

The going concern and the financial position of firms like industrial goods manufacturing firms are related to their capability to plan and manage the firms' current assets. Acquisitions of assets by firms are intended to increase their operational efficiency and value creation. Current asset investment is important for liquidity and profitability of firms. Current assets involve the investment in cash, accounts receivable and inventories. These are non-interest bearing assets. It is possible for a firm to avoid making capital investment like land, but it's impossible for a business to run without the provision of adequate current assets. Current asset investment gained prominence as firms began to be aware of the relevance of the difference between profitability and liquidity. This is particularly true as the major role of the financial manager of industrial goods manufacturing firms is to spend a great deal of their time managing current assets and current liabilities. In addition the financial manager is involved in arranging for short term funds, negotiating credit terms, monitoring the usage of cash, managing accounts receivable and keeping an eye on inventory movement (Agbogun & Taiwo, 2020). Efficiency in the management of investment in current assets is a vital element in the total management of operating funds and financial performance of an enterprise in both the public and private sector of the economy (Osirim &

Moses, 2019). Pandey (2005) noted that excessive investment in working capital (net current assets) results in unnecessary accumulation of inventories leading to inventory mishandling, wastage and theft. He argued further that unnecessary investment in current assets like debtors culminates into higher incidence of bad debts, complacency of management inefficiency, increasing speculative profit from the accumulated inventories and consequent loss of profits. Similarly, inadequate current assets might increase operating inefficiencies and this may result in poor financial performance. According to Chowdhary and Amin (2007), excessive investment in current assets can result in idle funds which could be used for earning profit while inadequate investment in current assets will interrupt the operations and will also impair profitability. The continual existence and fortune of an enterprise is tied to its ability to manage its current assets.

The financial performance of industrial goods manufacturing firms is a subject that has attracted attention, comments and interests from financial experts, researchers, the general public and the management of corporate entities (Agbogun & Taiwo, 2020). Yet, assessing some successful firms has proved to be a difficult task to many as a firm may have a high level of financial performance, but at the same time may be finding it difficult in managing its current assets (Maleya & Willy, 2013). With the proliferation of the capital market, the evaluation of financial performance becomes significant topic in finance. The function of the financial measures seems essential in evaluating the firm's performance (Mahmoudi, 2013). Oguna (2014) stated that financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the statement of financial position and income statement. This is achieved by selecting the information relevant to the decision under consideration from the total information contained in the financial statements, arranging the information in a way to highlight significant relationships and interpret and draw inferences and conclusions.

Statement of the Problem

There are several factors that affect financial performance of industrial goods manufacturing firms, one of which is current asset investment. One of the major challenges industrial goods manufacturing firms face is the issue of access to finance. Industrial goods manufacturing firms, especially in developing countries like Nigeria, suffer from lack of access to appropriate (term and cost) funds from the bank, government and capital markets. This is due to the perception of higher risks resulting in high mortality rate of the business, information asymmetry, poorly prepared project proposals, inadequate collateral, absence of, or unverifiable history of past credit(s) obtained and lack of adequate historical records of the company's transaction. Therefore many industrial firms which are profitable are forced to cease their operations due to the inability to meet short term debts obligations. Not that they do not have funds to operate, but the problem is how they manage their current assets. This study chose to investigate the relationship between current assets investment and financial performance of industrial goods manufacturing firms in Nigeria. Efficient investment in current assets is a crucial factor in enhancing the financial performance of industrial goods manufacturing firms which in turn can reposition the sector to contribute significantly to the growth of Nigerian economy. The success of operations of a firm is determined to a large extent by method of administration of its various forms of assets. In the quest to maximize financial performance, many organizations fail to scrutinize their investment in current assets. This is unfortunate because improving the way an organization controls and manages current assets may have the greatest potential for improving the organization's value (Osirim & Moses, 2019; Agbogun & Taiwo, 2020). In view of this, this study was carried out to determine the relationship between current assets investment and financial performance of listed industrial goods manufacturing firms in Nigeria. The study covered the period of 2011-2020 and included only publicly listed industrial goods manufacturing firms in Nigeria.

Conceptual Framework

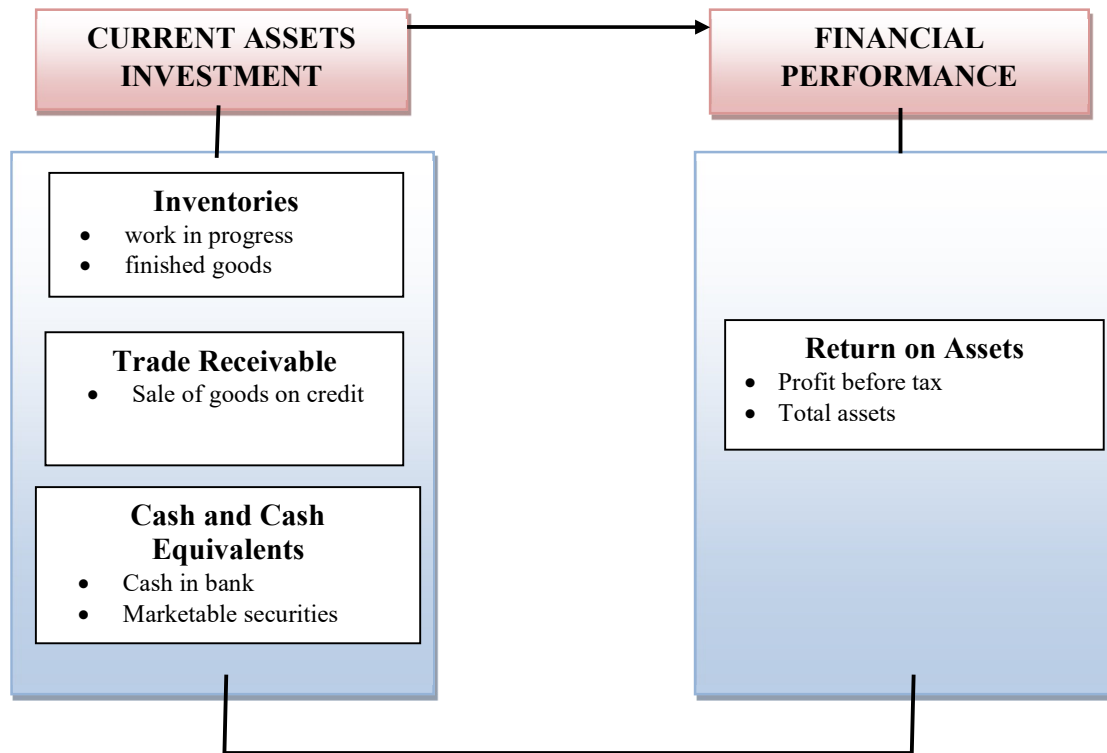


Figure 1.1 Conceptual framework showing current assets investment and financial performance of listed industrial goods manufacturing firm in Nigeria.

Source: Al-Qudah and Al-Afeef (2015); Osirim and Moses (2019) and Agbogun and Taiwo (2020)

Aim and Objectives of the Study

The aim of this study was to determine the relationship between current assets investment and financial performance of listed industrial goods manufacturing firms in Nigeria. Specifically, the study sought to;

- i. Ascertain the relationship between inventories and return on assets of listed industrial goods manufacturing firms in Nigeria,
- ii. Investigate the relationship between trade receivable and return on assets of listed industrial goods manufacturing firms in Nigeria,
- iii. Investigate the relationship between cash and cash equivalent and return on assets of listed industrial goods manufacturing firms in Nigeria,

REVIEW OF RELATED LITERATURE

Conceptual Review

Current Assets Investment: Current assets are the inventories, accounts receivables, and any other short-term investments held by an organization. Current assets management entails handling a firm's short-term assets to ensure the firm is able to continue its operation and that it has sufficient cash flow to meet maturing short-term debt obligations and future operational expenses. It also refers to all actions and decisions of the management which affects the size and effectiveness of current assets (Osirim & Moses, 2019). It is the management of short-term investments or assets of a firm with maturity less than one year. In the face of paucity of funds coupled with high cost of borrowing, investment in current assets and their management require

a special and professional attention as the key principle is to maintain optimum level of current assets that is neither excessive nor inadequate.

Current assets are those resources under the control of the entity, arising from past events from which economic benefits are expected to flow to the entity, but are used up within one accounting period. In other words, they are assets that are convertible to cash and cash equivalents within one accounting period. Examples of current assets include trade receivables, inventories, prepayments, short term investments, among others. Current assets were described as life blood of every firm, hence primary task of every manager is to keep current assets flowing and use the cash flow to generate profits (Nangih et al, 2020).

Inventories

Inventory is defined as the collection of physical commodities currently owned by an individual company. Coyle et al (2003) defines inventory as raw materials, work-in-progress, finished goods and supplies required for creation of a company's goods and services. Davis et al (2003) also defines inventory as the stock of any item or resource used in an organization. Inventory refers to stock in trade. Inventory represents the largest single investment in assets for most manufacturers, wholesalers and retailers. It is said to be any idle resource held for future use (Amahalu & Ezechukwu, 2017). Deveshwar and Modi (2013) define investment in inventory as the process used by a company in organizing products, placing goods in a warehouse, and ensuring that the required goods are supplied while also minimizing costs as much as possible. Investment in inventories help organization's purchases appropriate quantities needed for production and distribution (Kanekiyo & Agata, 2019). A study carried out by Anichebe and Agu (2013) shows that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction. Mismanagement of Inventories may lead to significant financial problems for a firm (Ogbodo et al, 2017).

Trade Receivable

According to Yator (2018), trade receivable refers to the amount of money owed to an institution by its stakeholders from goods and services offered but not yet fully paid for. Trade receivable is money owed to a firm when it sells its products or services on credit and does not receive cash immediately. Trade receivable investment entail procedures implemented to oversee successful operations of this account. The objective for investing trades receivable is to collect them as quickly as possible without losing sales from high-pressure collection techniques. The primary goal of trade receivables investment is to maximize the value of the enterprise by striking a balance between liquidity, risk and profitability (Muthoni et al, 2020). The maintenance of receivables is neither for sales maximization nor is it for minimization of risks involved by way of bad debts but growth of sales, the concern would have opened credit sales to all sorts of customers. This is because, if minimization of risk of bad debts were to be the objective, the firm would not have to make any credit sale at all. It is noted that many organizations thrive on credit sales and therefore management of accounts receivable becomes a pivotal point in maximization of profits. That means a firm should indulge in sales expansion by way of receivables only until the extent to which the risk remain within an acceptably manageable limit (Owuor et al, 2021).

Cash and Cash Equivalents

Cash and cash equivalents refers to the line item on the statement of financial position that reports the value of a company's assets that are cash or can be converted into cash immediately. Cash equivalents include bank accounts and marketable securities, which are debt securities with maturities of less than 90 days. Charles and Fortune (2019) stated that cash and cash equivalents are a group of assets owned by a company. For simplicity, the total value of cash on hand includes items with a similar nature to cash. If a company has cash or cash equivalents, the

aggregate of these assets is always shown on the top line of the statement of financial position. This is because cash and cash equivalents are current assets, meaning they're the most liquid of short-term assets. Cash is essential in starting a business as well as in liquidating the same for its breakup value. It is made up of cash on hand and demand supplies while cash equivalents are short term highly liquid investment that are readily convertible to known amount of cash although subject to insignificant risks of changes in value (Onyeka et al, 2018). Cash management, however, involves planning and control of components of current assets like accounts receivables (trade and other debtors), cash, prepayments, cash equivalents / short term investments; and current liabilities: accounts payables (trade and other creditors), accruals, bills payables and short term financing (Onyeka et al, 2018).

Financial Performance

The subject of financial performance has received significant attention from scholars in the various areas of business and strategic management. The term is used as a general measure and has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large (Owuor et al, 2021). Financial performance can be described as a measurement of how well a firm uses its assets from its primary model or business and general revenue. The term is also used as general measure of firm's overall financial health over a given period of time. Performance measures can be grouped into two: those that relate to results (outputs or outcomes such as competitiveness or financial performance) and those that focus on the determinants of the results (inputs such as quality, flexibility, resource utilization, and innovation). This suggests that performance measurement frameworks can be built around the concepts of results and determinants. Zulqernain, et al (2014) on the other hand opined that performance measurement systems are considered information systems that are used to evaluate both individual and organizational performance. For the purpose of this study, one financial performance measure of Return on Assets (ROA) was used.

Return on Assets

Return on assets identifies the level of profitability. This ratio measures the return on total assets after interest and taxes. The return on total assets or total investment shows the performance of management in using company assets to generate profits (Jan-Horas & Denny, 2019). Gartenberg et al (2019) opined that Return on Assets is the ratio used to measure the net profit gained from the use of assets. In other words, the higher this ratio, the better the productivity of assets in obtaining net profits. This will further increase the attractiveness of the company to investors. Increasing the attractiveness of the company makes the company more attractive to investors. This is because the rate of return or dividends will be even greater. This will also have an impact on the company's stock price in the capital market as it will increase so that ROA will affect the company's stock price. According to Zulqernain, et al (2014), Return on Assets is a ratio that shows the return on the amount of assets used in the company. Thus it can be said that a company with a high level of return on assets will attract investors to invest their capital in the company, because it is considered that the company generates high profits and will ultimately have a positive impact on the value of dividends to be received by the company's shareholders.

Theoretical Review

A theory refers to a tried, tested, and verified ideology aimed at explaining and helping the general understanding of the relationship between the underlying phenomena (Julius & James, 2021). For the purpose of this study, the cash conversion cycle theory was employed. The cash conversion cycle theory was used to describe the underlying relationship between current assets investment and financial performance.

The Cash Conversion Cycle (CCC) Theory

The Cash Conversion Cycle theory was developed by Verlyn and Eugene in the 1980s and is a working capital management theory that enables firms to optimize their financial management operations (George et al, 2021). The CCC theory is a theoretical and financial approach that explains the duration taken by an organization to convert its current assets such as accounts receivable into liquid cash. As such, the theory is concerned with the annual days and frequency taken by an institution to turn its liquid assets and cash equivalents into liquid cash necessary in meeting operational costs and other obligations. The theory further measures how much time it takes an organization to collect its accounts receivable and pay up its obligations without incurring any penalties, such as in the form of delayed vendor payments. Industrial good manufacturing firms with shorter CCC periods exhibited through high cash ratios were considered efficient and experienced optimal financial performance. In contrast, industrial good manufacturing firms with more extended CCC periods were deemed inefficient and characterized by being financially unstable (Oseifuah & Gyekye, 2017). According to Chang (2018), cash conversion cycle theory indicates the theoretical amount of time an organization takes to send and receive cash tied up in working capital, that is, current assets. The theory focuses on explaining how money tied up in working capital can quickly be converted into liquid cash to enable the success of meeting an organization's operational costs.

Reason for Anchoring CCC theory on this study

The CCC theory was relevant to this research since it helped examine the frequency these industrial goods manufacturing firms spend their available investment in term of cash and convert money ostensibly held in other components of the current assets such as inventory, receivables, and cash equivalents into liquid cash. The theory was thus, helpful in explaining and understanding the impact of current assets investment and financial performance variables. According to the cash conversion cycle theory, organizations that can convert their current assets into liquid cash quickly are considered financially healthy compared to those that struggle to reclaim their assets into cash. As such, this theory recommended that organizations should aim at holding assets that are quickly convertible into cash to enable them meet their financial obligations with minimal costs.

Empirical Review

There are many authors who have studied the relationship between current assets and financial performance in Nigeria and abroad. Also a few have studied it in relation to the adoption of sector like deposit money banks, insurance companies, consumer goods manufacturing firms etc. Most of the results are mixed due to different methodology such as scope, research design, population of the study, time frame, sample and sampling techniques, sources of data collection and method of data analysis.

Muli et al (2022) determined the influence of current asset structure on financial performance of manufacturing firms in the building and construction sector in Kenya. The study employed causal exploratory survey with a sample size of 44 companies in the building and construction sector in Kenya and 5 year period covering 2016 to 2021 was used. Fixed effects bivariate panel regression model was adopted after conducting model specification tests. The findings revealed that current asset structure (CAS) as measured by the current asset to total assets ratio had a negative effect on financial performance as measured by return on equity and net profit margin. The study concluded that optimal asset structuring is a tool use to balance off the risk return trade-off.

Nangih and Emeka (2021) assessed effect of asset mix on financial performance of selected consumer goods firms in Nigeria. The specific objectives of the study were to determine the effects of tangible non-current assets, current and intangible assets structures and returns on asset. Ex-post facto research design was adopted and data obtained from the annual reports of the companies for a seven-year period from 2013 to 2019. Multiple regression analytical technique

was employed in analyzing the data. The findings of the study revealed that the independent variables employed in the study explained about 13.7% of the variations in returns on asset. Specifically, both current and intangible assets have positive and significant effect with ROA at 5% level of significance. Noncurrent assets have positive but insignificant effect on ROA. Thus, the assets composition of a firm play a critical role in the financial performance of the firm, although it explains only about 14% of the performance of the firm. It was therefore recommended that firms should increase their current and intangible assets, but should keep it at an optimum level that will ensure that maturing short-term business obligations are met.

Nangih et al (2020) investigated the influence of current assets on stock performance of listed oil and gas companies in Nigeria. The study adopted an ex-post facto research design. Judgmental sampling technique was used to select five (5) quoted Oil and gas companies on the Nigerian Exchange Group. Data were collected mainly from published annual reports and was analyzed using correlation and regression statistics. The findings revealed that receivables and inventory significantly influenced share price of the listed firm whereas cash did not. The study therefore concluded that the receivables of oil and gas firms in Nigeria did not positively influence their share prices and the study suggested that the management of oil and gas firms should re-evaluate their credit policies in order to ensure that the level of receivables is reduced.

Hyeon and YoungJun (2020) examined relationship between intangible assets investment and firms' performance: evidence from small and medium-sized enterprises in Korea. Actual data collected from 173 SMEs in Korea were analyzed employing hierarchical regression method. Results indicate that all three intangible resources have a positive effect on a firm's profitability and value. Interestingly, this research finds that investment in advertising has the most influential impact on a firm's profitability and value. This study has implications for SMEs in achieving their profitability and value. The results in this study highlight that intangible investment is not a waste of money for SMEs, and that business managers could strategically utilize these three key contributors (human capital, advertising, R&D) and adopt investment in intangible assets to accomplish their managerial goals.

Osirim and Moses (2019) investigated impact of current assets investment and management on corporate financial returns of listed commercial banks in Nigeria using longitudinal research design and secondary data of eight (8) listed banks in the Nigerian Exchange Group used as sample size. Ordinary least square (OLS) regression analysis was adopted. The findings showed that there is a significant and positive relationship between loans and advances granted to customers and return on assets. The relationship between loans and advances granted to other banks and return on assets was negative while financial assets held for trading and cash, and cash balances have an insignificant and positive relationships with return on assets. The study suggested that bank managers should not only increase their investment in current assets but that they should also consider the most effective and efficient way of managing these assets in order to improve their financial efficiency and corporate value.

Ullah and Ahmad (2019) investigated impact of current and non-current assets on the profitability of pharmaceutical companies of Pakistan using 9 years data which was obtained from six pharmaceutical companies listed in Karachi Stock Exchange over a period of 2010 to 2018. The study employed an ex-post facto research design and regression analysis. The study findings revealed that investment in current asset has positive impact and significant relationship with the return on assets of pharmaceutical companies in Pakistan.

Marian and Ikor (2017) examined impact of assets investments on financial performance of selected banks in Nigeria. Ex-post factor research design was used for the study. Secondary data were collected from annual reports and accounts of Deposit Money Bank of eight selected banks over the period of eleven (11) years (2002 – 2014). The eight (8) banks were selected using random sampling technique. Multiple regression were employed. Findings of the study show a

negative and significant relationship between assets investment and return on asset (ROA). The findings also implied that additional investment in assets decreased return on assets of the banks. Onipe et al. (2015) determined the effect of current assets management and financial performance: Evidence from listed deposit money banks in Nigeria. The study adopted an ex-post facto research design. The study sample size was 15 listed deposit money banks operating in financial services sector from the Nigerian Stock Exchange (NSE) and adopted robust estimator method of data analysis. The results of the conducted analyses suggested a positive relation between the cash and bank balances, financial assets held for trading, loans and advances to customers and Return on Asset. Further result of the study suggests that derivative assets, loans and advances to banks have negative impact on return on asset.

Al-Qudah and Al-Afeef (2015) examined relationship between investment in current assets and profitability and liquidity of industrial companies listed in Amman Stock Exchange. The study adopted an ex-post facto research design. Random sampling technique was used to select 50 quoted companies Amman Stock Exchange between 2008-2013. Data were collected mainly from published annual reports and was analyzed using correlation and regression statistics. The researchers found that there is a relationship between investment in current assets and profitability, liquidity in companies listed in Amman stock exchange- industrial sector. The researchers found that the ratio of (44.1%) of the changes that occur in the Return on Assets (ROA) and Current Ratio (C.R) belonging to the change in investment in current assets. Therefore they recommended that industrial companies should follow a moderate policy of investment in current assets. So that the ratio of current assets to fixed assets shall be moderate, reflecting a reasonable degree of risk and acceptable profitability which balanced between risk and return.

Dewi (2015) examined influence of current assets and financial performance of banks listed on IDX Year 2011-2013. The study adopted ex-post facto research and secondary method of data collection was employed. The method of data analysis was descriptive and regression analysis. The result of this study states that current assets are partially significant and negative to profit. On the other hand current assets have no significant effect on earnings.

Gap in Literature

The empirical review of this study shown that research in the area of current assets investment and financial performance has been done excessively outside Nigeria but not so in Nigeria. To the best of our knowledge, none of the prior studies has used industrial goods manufacturing firms in Nigeria. Also, none of the previous studies has conducted a study using five (5) out of the eight (8) listed industrial goods manufacturing firms used in this study. Therefore, this study is designed to bridge this knowledge gap that existed in the literature of current assets investment and financial performance of listed industrial goods manufacturing firms.

METHODOLOGY

This chapter discussed the methodology adopted for the study. The chapter covered philosophical underpinning, research design, population of the study, sample size and sampling technique, method and sources of data collection, variables measurement, statistical tool for data analysis, model specification of the study and discussion rule.

Philosophical Underpinning of the study: This study adopted the positivist philosophy. Positivism is a philosophy that emphasizes learning through action and building content from experience and reflection. The philosophy presumes that the investigator and also the material of the study are independent and had no influence on one another. Bryman and Bell (2011) stated that positivism philosophy may be a potentially compelling approach to financial management. Generally, quantitative data is collected when the researcher has adopted the positivist approach

and data collected will be scientifically analyzed. In positivism studies, the role of the researcher is restricted to data collection and interpretation through objective approach and also the research findings are usually observable and quantifiable.

Research Design: The research design adopted for this study was ex-post facto design. This research used ex-post facto design which is also referred to as after the fact design because, it applies where the data for the study already exists. This study data are collected from secondary data which form the basis of past even.

Population for the Study: Population refers to the total body (entities) existing in a specified area, such as an organization, city, country, or continent, at a given time. Ashraf (2012), posits that population is the complete set of cases or members of a group whose relevant data could be determined. The targeted population of this study consists of all the eight (8) listed Industrial goods firms of Nigerian Exchange Group (NGX).

Sample Size and Sampling Techniques: The study selected five (5) listed Industrial goods firms in Nigerian Exchange Group from 2011-2020 using census sampling techniques. The five listed Industrial goods firms were selected due to availability of data, the nature of continuity on those selected companies and the basis of data computation especially the independent measures and dependents measures.

Table 1 Sample size of listed industrial good manufacturing firms in NGX

S/N	Companies	Time Frame
1	AUSTIN LAZ & COMPANY PLC	10
2	GREIF NIGERIA PLC	10
3	BETA GLASS PLC	10
4	DANGOTE CEMENT PLC	10
5	LAFARGE AFRICA PLC.	10

Source: NGX, 2022

Sources and Method of Data Collection: This study used secondary sources of data. The data was obtained from the annual reports and accounts of the sampled listed Industrial goods firms in Nigerian Exchange Group Fact Book. Secondary data was used due to the nature of the variables under study. Cross- sectional/time series data were extracted from the annual reports and accounts of the firms for the purpose of assessing the relationship between the variables of the study. Panel data were used in the study in order to detect and measure effect that cannot be simply observed by pure cross section or pure time series data. The data also suited the study dynamics of change and complicated behavioral pattern.

Explanation of Variables

The variables that were adopted to measure the effect of current assets investment on financial performance of listed industrial goods manufacturing companies in Nigeria are presented in this section.

Current Assets Investment (Independent Variables)

- i. Inventories: define as raw materials, work- in- progress, finished goods and supplies required for creation of a company's goods and services. In this study, inventories are extracted direct from statement of financial position under current assets.
- ii. Trade receivable: Trade receivable is money owed to a firm when it sells its products or services on credit and it does not receive cash immediately. In this study, trade receivable is extracted direct from statement of financial position under current.

- iii. Cash and Cash Equivalent: These refer to the line item on the statement of financial position that reports the value of a company's assets that are cash or can be converted into cash immediately. In this study, cash and cash equivalent was extracted direct from statement of financial position under current.

Financial Performance (Dependent Variables)

Companies' financial performance variables for the study are:

Return on Asset (ROA): The return on total assets or total investment shows the performance of management in using company assets to generate profits.

$$\text{Mathematically, Return on Asset} = \frac{\text{Profit before taxes}}{\text{Total asset}}$$

Firm Size (Moderating Variable):

Firm Size: This is measured by total assets, total sales and market value share. For purpose of this study, firm size is mathematically expressed as log of total assets value.

Model Specification

In order to investigate the relationship between current assets investment and financial performance of listed Industrial goods firms in Nigeria from (2011 to 2020), we develop the Multiple Linear Regression analysis using (SPSS). Thus, drawing from the Neo-classical syntheses of Sala-i- Martin (2002), the research analyses was guided in a functional relationship established for the variables: the independent variable current assets investment', indices such as inventories (INV), trade receivable (TR) and cash and Cash and Cash Equivalent (CCE). These independent variable metrics are use linearly in measuring return on asset (ROA)

Model: Return on Assets (ROA) Model

$$\text{ROA} = f(\text{INV, TR, CCE, FM}) \dots\dots\dots 1$$

This can be written in Ordinary Least Square (OLS) form as:

$$\text{ROA}_t = a_0 + a_1\text{INV}_t + a_2\text{TR}_t + a_3\text{CCE}_t + a_4\text{FM}_t + U_t \dots\dots\dots 2$$

Where: ROA = return on asset, as proxy for financial performance

INV = inventories as proxy for current assets investment

TR = Trade receivable as proxy for current assets investment

CCE = Cash and cash equivalent as proxy for current assets investment

t = time period under study

a_0 = constant

a_1 - a_4 = parameter or coefficient of explanatory variable

u = error term

Method of data analysis

This study adopt descriptive statistics, Pearson Product Moment Correlation Coefficient and Ordinary Least Square (OLS) multiple regression. Descriptive statistics was used to ascertain the central tendency of each of the variables of the study, Pearson correlation coefficient was used to compute the correlation between the independent variables inventories (INV), trade receivable (TR) and cash and Cash and Cash Equivalent (CCE). Dependent variable was return on asset (ROA). Appah (2020) stated that, the relationship is assumed to be linear if the correlation coefficient ranges from -1.0 (perfect negative correlation) to +1.0 (perfect positive relationship). The correlation coefficient was calculated to determine the strength of the relationship between independent and dependent variables. Finally, Ordinary Least Square (OLS) multiple regression technique was used to estimate the relationship between current assets investment variables and

financial performance variables of Industrial goods firms in Nigeria. Other tests of significance which was used in this study are:

R^2 – coefficient of determination were used to test the explanatory power of the independent variable;

T-test will use to test for the significance of the coefficient of the variables;

F-Ratio were used to test for the significance of the overall models;

Durbin-Watson (DW) test were used to test whether auto-correlation exist or not in error term (u);

RESULT AND DISCUSSION

Descriptive Statistic (Univariate Analysis)

Univariate analysis is a basic kind of analytical technique for statistical data. However, the data contains just one variable and does not have to deal with the relationship of a cause and effect. The main objective of the univariate analysis is to describe the data in order to find out the patterns in the data. This is done by looking at the mean, median, standard deviation, Skewness, Kurtosis. Jarque- Bera and Probability etc.

Table 2 Descriptive Statistics of the Variables

	INV	TR	CCE	ROA
Mean	5.882711	5.848207	5.654680	0.176784
Median	6.059832	5.458367	5.372694	0.100359
Maximum	7.591708	7.419225	7.828936	1.795157
Minimum	0.000000	3.628593	3.024075	0.000291
Std. Dev.	1.398312	1.187895	1.515377	0.296269
Skewness	-1.392920	-0.164865	-0.250031	4.295444
Kurtosis	7.148131	1.514316	1.760747	22.03051
Jarque-Bera	52.01643	4.824955	3.720438	908.2575
Probability	0.000000	0.089593	0.155639	0.000000
Sum	294.1356	292.4103	282.7340	8.839213
Sum Sq. Dev.	95.80851	69.14368	112.5220	4.300978
Observations	50	50	50	50

Source: Author computation using E-views 8

Table 1 presents the descriptive analysis of the time series properties of the variables included in the model. The descriptive statistics was carried out for the variables involved in our model from the cross panel data 2011 to 2020. It shows the mean value of INV, TR, CCE, ROA, and FS as 5.883, 5.848, 5.655, 0.176 and 7.086 respectively. The standard deviation of INV, TR, CCE and ROA from their respective long-term mean values every year point at 1.398312, 1.187895, 1.515377, 1.515377 and 0.296269 respectively. The JB values for INV and ROA variables are higher and their respective corresponding probability values is less than 0.05 level of significance indicating that they are normally distributed and that the variables are suitable for conducting the analysis. However, TR and CCE are also higher but their respective corresponding probability values are greater than 0.05 level of significance. This shows that their distribution level at mean zero and constant variance. All the variables are positively Kurtosis. INV, TR and CCE are negative Skewness indicated that they have a short right tail while ROA and FS are positive skewness indicated that they have a long right tail.

Regression Analysis

The results of the ordinary least regression analysis are presented below.

Table 3 Regression Result of Model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 10/07/22 Time: 12:49
Sample: 2011 2020
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.532054	0.234876	2.265257	0.0284
INV	-0.214416	0.049445	-4.336478	0.0001
TR	0.053183	0.060905	0.873221	0.3872
CCE	0.085535	0.044857	1.906841	0.0429
R-squared	0.438898	Mean dependent var		0.176784
Adjusted R-squared	0.389022	S.D. dependent var		0.296269
S.E. of regression	0.231579	Akaike info criterion		0.006845
Sum squared resid	2.413289	Schwarz criterion		0.198047
Log likelihood	4.828885	Hannan-Quinn criter.		0.079656
F-statistic	8.799817	Durbin-Watson stat		1.655807
Prob(F-statistic)	0.000025			

Source: Author computation using E-views 8

Table 3 shows the coefficients and z-statistics of fixed effect for regression results for the model. The results show that the adjusted R² is about 0.438 for model two which expresses the percentage of the total variation in the dependent variable explained by the current assets investment {inventories (INV), trade receivable (TR), and cash and cash equivalent (CCE)} variables jointly. It indicates that inventories (INV), trade receivable (TR), and cash and cash equivalent (CCE) constitute 43.8% variation in the financial performance measure of return on assets (ROA) of listed industrial goods manufacturing firms in Nigeria while the remaining 56.2% are factors not included in this study model. The probability of F-value (0.000025) for the model is less than 0.05 significance level indicates that the models are of good fit between current assets investments (INV, TR, and CCE) and financial performance variable (ROA) was properly selected.

Test of Hypotheses

Statement of Hypotheses

- Ho₁:** There is no significant relationship between inventories and return on assets of listed industrial goods manufacturing firms in Nigeria.
- Ho₂:** There is no significant relationship between trade receivable and return on assets of listed industrial goods manufacturing firms in Nigeria.
- Ho₃:** There is no significant relationship between cash and cash equivalent and return on assets of listed industrial goods manufacturing firms in Nigeria

Decision Rule: Accept Ho for P > 0.05. Otherwise reject

Decision: Results in Table 3 shown the probability value 0.0001 < 0.05 (less than) alpha level. Therefore, we rejected the null hypothesis one and accepted the alternate one, implied that there is a significant relationship between inventories and return on assets of listed industrial goods firms in Nigeria.

Results in Table 3 also shown the probability value 0.3872 > 0.05 (greater than) alpha level. Therefore, we accepted the null hypothesis two and rejected the alternate two, implied that there

is no significant relationship between trade receivable and return on assets of listed industrial goods firms in Nigeria.

Results in Table 3 finally, shown the probability value $0.0429 < 0.05$ (less than) alpha level. Therefore, we rejected the null hypothesis three and accepted the alternate three, implied that there is a significant relationship between cash and cash equivalent and return on assets of listed industrial goods firms in Nigeria.

DISCUSSIONS OF FINDINGS

This work determined the relationship between current assets investment and financial performance of listed industrial goods firms in Nigeria using time series data from 2011 to 2020. The data used in this study were subjected to some pre-diagnostic test such as descriptive statistics. Finally Ordinary least Square regression method was used as the estimation technique. Hence below are findings of the study;

Inventories and Return on Assets

The table 3 above showed a regression statistics significant value of $0.0001 < 0.05$ with a t-statistics of -4.336478 . Hence, based on the results, the null hypothesis (H_{01}) was rejected. Therefore, the research finding concluded that there was a negative and significant relationship between inventories and return on assets of listed industrial goods manufacturing firms in Nigeria for the period 2011 to 2020. The result conformed to the finding of Ullah and Ahmad (2019), his findings revealed that that investment in current asset has positive impact and significant relationship with the return on assets. Mohsin (2019), Jan-Horas and Denny (2019) and Ndonwabile (2019) findings also support the empirical result; their result revealed that inventory management has significant relationship with financial performance. However, Agbogun and Taiwo (2020) result also disagreed with this study finding, his results inventory turnover ratio had statistically insignificant relationship with the financial performance of manufacturing firms in Nigeria.

Trade Receivable and Return on Assets

The table 3 above shows the correlation t- statistic of 0.873221 and regression coefficient ($P=0.3872$) of hypothesis one (H_{02}). Therefore, the relationship between trade receivables and return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria is positive. The regression statistics revealed insignificant value of $0.7262 > 0.05$ implied insignificant relationship. Thus, based on the results, the null hypothesis (H_{02}) was accepted. Therefore, the research finding concluded that there was a negative and insignificant relationship between trade receivables and return on assets of listed industrial goods manufacturing firms in Nigeria for the period 2011 to 2020. The result conformed to the finding of Agus et al (2018), their finding revealed that current assets had negative and insignificant relationship with financial performance. Similarly, Patrick (2020) also showed that there is insignificant relationship between account receivable period and financial performance of listed manufacturing firms in Nigeria. However, George et al (2021) findings disagreed with this study finding, and they found that accounts receivable management had an indirect and significant effect on the financial performance of chartered public universities in Kenya. Furthermore, Muthoni et al (2020), study established that there was significant relationship between accounts receivable management and financial performance of manufacturing firm. Also, Adam and Caroline (2018) study revealed an underlying positive effect of accounts receivable on SMEs' financial performance in Mogadishu.

Cash and Cash Equivalent and Return on Assets

The table 3 above shows the t-statistic coefficient of 1.906841 and regression coefficient ($P=0.0429$) of hypothesis three (H_{03}). Therefore, the relationship between cash and cash equivalent and return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria is positive. The regression statistics revealed significant value of $0.0429 < 0.05$ implied

significant relationship. Thus, based on the results, the null hypothesis (H_0) was rejected. Therefore, the research finding concluded that there was a negative and significant relationship between cash and cash equivalent and return on assets of listed industrial goods manufacturing firms in Nigeria for the period 2011 to 2020. The result conformed to the finding of Thankgod (2021), his result indicated that, there is positive and significant relationship between cash equivalents and return on equity of deposit money bank. Furthermore, Onyeka et al (2018) result revealed that, there is a significant positive influence between cash and cash equivalents and on return on assets of the sampled firms. Also, Tanveer et al (2016) regression result revealed that cash conversion cycle, and creditors' payment period as well as firm size have significant positive relationship with financial performance. But Daniya et al (2018) finding disagreed with this study result, his study found that cash conversion cycle has insignificant relationship with the financial performance of the studied companies. Furthermore, Osirim and Moses (2019) result disagreed that financial assets held for trading and cash, and cash balances have an insignificant and positive relationships with financial performance.

CONCLUSIONS

This study established empirical evidence about the relationship between current assets investment and financial performance of listed industrial goods firms in Nigeria. Based on the data obtained from the annual financial reports of the selected sampled industrial goods manufacturing firms' from Nigeria exchange group; the data were presented and analyzed, findings were discussed in chapter four and summary of findings are presented above. Therefore, the study concluded that;

1. Inventories have negative relationship and significantly influence earnings per share of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria.
2. Trade receivable has positive relationship and does not significantly influence return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria.
3. Cash and cash equivalent has positive relationship and significantly influence return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria.

RECOMMENDATION(S)

Based on the findings and conclusions of the study, the following recommendations were made:

1. Firms should invest more on inventories because the empirical evidence indicated that it has significant return to shareholders.
2. Shareholders should monitor and evaluate return on assets profitability index if they invest more on inventories because this study empirically confirmed investment in inventories also bring significant influence to return on assets.
3. Firms should keep control over their trade receivable because this study finding showed that it has insignificant influence on earning per share.

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