

Inventory Management and Financial Performance Listed Construction Companies in Nigeria

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ABSTRACT

This study investigated the relationship between cash management and financial performance of listed construction companies on Nigerian Exchange Group. Specifically, the objectives of the study are to examine the relationship between cash management and earning per share, ascertain the relationship between cash management and net profit. The ex-post facto research design was used. The study population comprised Six (6) listed construction companies as listed on the Nigeria Exchange Group in 2021. The entire population was used as the sample size, using the census approach. Data was source through the annual report of listed construction companies for 2011-2020. Pearson correlation and multiple regression was used in data analysis with the aid of Stata12 software. The study revealed that there is no relationship between cash management and earnings per share of listed construction companies on the Nigerian Exchange Group. There is no relationship significant between cash management and net profit of listed construction companies on the Nigerian Exchange Group. The study concluded that there is no significant relationship between inventory management and financial performance. The study recommended that effort should be made to decrease the number of inventory turnover days and increase the creditors' payable days in order to minimize the length of the working capital cycle for increase financial performance; efficient inventory control measure like storing and transferring stock, as well as tracking should be put in place for enhance financial performance.

Key Words: *Inventory Management, Financial Performance, Earning Per share, Net Profit.*

INTRODUCTION

The ravaging impact of Covid-19 Pandemic reduced Nigeria activities in the Construction industry by over 60 percent in 2020. Many construction companies are restructuring their business performance and operational methods in an essential and fundamental way due to new technology inventions, weak public investment and limited Foreign Direct Investment (FDI). These firms are exploring to integrate their search for cost-effective development with the promise of environmental protection and social responsibility for present and future generations with the sustainable business development concept. Many firms are trying to effect changes that are important in their policies, business structure, commitment, short and long term strategically planned to properly take advantage of 13.5 trillion 2021 budget with over 3.85 trillion for capital expenditure, investment in the construction industry will also benefit from the 2.3 trillion economic sustainability plan which was approved in June 2020 by the President of Nigeria. Expectation is that the plan, which will deliver 30,000 social housing units alongside rural roads, will create Jobs, employing the services of both established developers and young small - medium scale professionals' contractors such as architects, engineers, quantity surveyors, accountants. Etc.

The Nigeria Construction Industry specifically has been experiencing reoccurring issues of many abandoned or uncompleted projects across the country after high financial mobilization (Agundu, et al., 2003). Several projects that have sucked up billions of dollars to completion are left to rot away with no proper supervision, maintenance and management to serve their people. According to Ewa (2013), there are about 400 uncompleted or abandoned projects that have sucked up billions of naira, which will take about 3 decades to complete. Interestingly, the high level of abandoned projects in Bayelsa state and Federal Capital Territory defacing the landscape of cities is a great problem on its own. More often than not, the majority of the projects delayed for years before completion and end up becoming functionally obsolete (Nzekwe et al., 2015).

The reoccurring abandoned projects and construction failure including buildings and other civil engineering infrastructure like bridges, dams, houses, churches, schools, seaports, tunnels, airports, roads etc are abandoned to cluster around Nigeria cities. A common example is the railway project located in Rivers State as well as the 24-storey, 5-star Hotel tower/shopping mall in Bayelsa state which has eaten up billions of dollars yet abandoned. Unfortunately, many construction companies in Nigeria are not operation anymore because no contract is awarded to them yet they exist in the Corporate Affairs Commission tax payroll. Example is FAK Engineering Company, DOK Engineering Service Nigeria Limited in Bayelsa State. While some of the construction companies in Nigeria have completely wind-up. Example; Willbros Group Inc, Homan Construction company, and Emechelite Construction Company etc. The multiplier effect of these non-functional and winding-up of construction companies in Nigeria has caused an increase in unemployment rate which is a great problem in Nigeria today.

In Nigeria, there have been numerous studies in asset management and financial performance of listed construction companies and related issues in the economy growth though with varying results.

Oluymi and Chinyere (2021) studied the relationship between asset structure and financial performance of quoted construction companies in Nigeria. The study used secondary data from

2012 – 2018. The dependent variable of financial performance was measured using earning per share and return on asset while the independent variable of asset structure was measured by fixed asset and current asset. The proxies were measured using correlation test, unit root test using the Augmented Dickey Fuller (ADF) and simple regression using (Eview 11). The result was that fixed asset has a profitable and significant impact on return on asset. It also showed that current asset has a positive and significant impact on earnings per share.

Akparhuere et al. (2019) researched on the relationship between asset management efficiency on performance of building and construction companies in Nigeria. They used asset turnover, inventory turnover, and working capital turnover for asset management proxy while profit after tax as performance proxy. The study used secondary data from 2006 to 2017 while using simple regression method to analyse the data. The result was that asset turnover did not have significant effect on performance of building and construction companies in Nigeria. On the other hand, inventory turnover has significant effect on corporate performance of building and construction companies in Nigeria.

Emmanuel et al. (2021) studied the level of financial performance of selected construction companies in South Africa. The study used 32 construction companies in South Africa, pragmatic approach was used and contractors with financial capacity and credibility of \geq R 40 million, annual turnover of \geq R 20 million, and available capital of \geq R 40 million were selected purposively for the research. Parameters like total indirect cost, direct cost of work, total income and total revenue were obtained from the sample contractors to measure their financial performance. Post hoc Turkey's honest significant differences (HSD) was used to run the analysis. In their result, they concluded that there is no consensus on the indicators that measure a construction company's financial performance projects undertaken and there is a shortage of concepts on the financial performance indicators for construction companies in South Africa and indeed, the entire Africa continent.

Seeing that none of the reviewed literature has used cash management, working capital management and inventory management as an independent variable to measure gross profit, net profit and return on equity as dependent variable. This research shall use Times Series Data from 2011 – 2020. Descriptive and inferential statistics will be used to analyse the data for this study. The descriptive statistics will be used for the analysing and understanding of any treatment of numerical data while the inferential statistics will be utilized to make generalization, predictions and/or estimations about a given data. The descriptive statistics used are the mean score and standard deviation while the inferential statistic which is the multiple regression will be used to test the postulated null hypotheses on assets management and financial performance within Stata12 software. These are the gaps that the present study intends to fill which was not used by the literatures reviewed.

Objectives of the Study

1. Ascertain the relationship between inventory management and earning per share of listed construction companies in Nigeria.
2. Ascertain the relationship between inventory management and net profit of listed construction companies in Nigeria.

Research Questions

1. What is the relationship between inventory management and earnings per share of listed construction companies in Nigeria?
2. What is the relationship between inventory management and net profit of listed construction companies in Nigeria?

Research Hypotheses

The following null hypotheses are to be tested:

Ho₁: There is no significant relationship between inventory management and earnings per share of listed construction companies in Nigeria

Ho₂: There is no significant relationship between inventory management and net profit of listed construction companies in Nigeria

Conceptual Review:

Inventory management

The importance of inventory management and control cannot be over-emphasized. Ohaka et al (2020) defined Inventory management (Control) as an aspect of cost control and of cost reduction, when stockholdings cost are excessive. Inventory comprises a large part of a business working capital and therefore, it is very important to manage it effectively. For many companies, inventory management is perhaps the single most important control technique having direct relationship with production, marketing, purchasing and financial policies. Inventory management is very important to a construction company wellbeing because it helps to ensure there is rarely too much or too little stock on hand, limiting the risk out of stock and inconsistent records. Benjamin (2001) cited in Oladejo and Ajala (2016) explained that inventory management is aimed at achieving the inventory level which minimizes the total cost associated with inventory, that is, the optimal and most economic level. More so, inventory includes assets held for sale in the ordinary course of business (finished goods), assets in production process for sales in the ordinary course of business (work in progress), and materials and supplies that are consumed in production (raw materials). (IAS2.6). Ashok and Narsee (2013) defined inventory management as the stock pile of a product a firm is offering for sale in many components making up the product which includes stock of raw material, foods in process, finished goods in warehouse and spares. Ghosh (2003) defined inventory management as a stock of goods that is maintained by a company in anticipation of some future demand. Arti and Dhawal (2013) defined inventory management as any stock that a firm or business keeps to meet its future requirement of production and sales. Lwika, et al. (2013) maintained that inventory management is the art and science of maintaining stock level of a given group of items incurring the least cost consistent with other relevant targets and objectives set by the company.

Noor-Ajian et al. (2014) explained that inventory management relates to the question of how much stock of material is needed to buffer against change of state in forecasting customer demands and supplier's deliveries. Recently, many companies in Nigeria have faced diverse challenges in inventory management and control, thus, affecting their financial and operational performance. Some companies have their materials over stock which resulted to the materials expiration or outdated, especially during the Covid 19 pandemic. Some companies were under stock, improper stock taking, theft of materials by the staff, damaged due to lack of care and consistent delay in the delivery of materials into the companies amongst other issues. (Beheshi, 2010) opined that, many manufacturing companies in Nigeria invest more than 50% of their total assets in working capital, which includes inventory, account receivable and account payable. The general company's challenge is that excessive degree of working capital invested in inventory negatively affect company's operational performance (Aktas et al., 2015). The basic company's problem is that some managers do not have good inventory management strategy for efficiency and productivity of inventory stream (Torabi et al., 2015). There is an urgent need by companies to deliver strategies for effective management and optimal control of inventory level of their materials and products. Harrisson et al. (2001) suggested that, it is needful for companies to maintain a minimum, ordering hastening and maximum stock levels. The flour mill manufacturing companies operating in Nigeria are faced with the problem of determining appropriate inventory level that should be kept in order to ensure that their customer's needs are met timely and production processes is not hampered. The need to strike a balance between overstocking and empty stocking has been a major problem for the companies. Companies are challenged with the out-of-stock goods or materials during production. Ikon et al. (2016) Many of the flour mill companies in Nigeria are suffering from operating environment challenges and poor strategic operating system for inventory management and control. The challenge of inventory shrinkage is also being faced constantly by the flour mill companies in Nigeria.

Financial Performance

Financial performance is the achievement of the company's financial performance for a certain period covering the collection and allocation of finance measured by capital adequacy, liquidity, solvency, efficiency, leverage and profitability. Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. Interestingly. There are different performance such as operational, market and financial performance, but this study will focus on financial performance management. The term is also used as a general measure of a firm's overall financial health over a given period. Thus, financial performance identifies how well a company generates revenues and manage its assets, liabilities, and the financial interest of its stakeholders. It is obvious that financial management reflects the effectiveness of the management strategy.

Daniel (2018) defined finance in terms of its activities. Accordingly finance is defined as a broad term that describes two related activities: the study of how money is managed and the actual process of acquiring needed funds. The author further observed that finance encompasses the oversight, creation and study of money, banking, credit, investments, assets and liabilities that make up financial systems. Corporate finance defined finance as the management of money and includes activities like investing, borrowing, lending, budgeting, saving, and forecasting. Here finance is also looked at in terms of activities it represent. They categorized finance into three

main types of finance: personal finance, corporate finance and public finance. Nwana (2011) defined finance as the art and science of managing money which involves the process of sourcing and using money. Again this definition looked at finance in terms of activities. www.internationalstudent.com defined finance as a practical facilitator, connecting people who want to borrow with people who want to end. This is also defining finance as activities performed by participants in transactions.

Earnings Per Share (EPS)

Earnings per share is the major factor used in determining share price and company value. The earning per share signified the portion of a company's earnings, net of taxes and preferred stock dividends that is allotted to each share of common stock. The figure can be calculated by simply dividing net income earned in a given reporting period (usually quarterly and annually) by the total number of shares outstanding during the same term. This is because the number of shares outstanding can fluctuate, a weighted average is typically used (Besely 2006). Calculated as:

$$= \frac{\text{Net income} - \text{Dividends on preferred stock}}{\text{Average outstanding shares}}$$

International Accounting Standard (IAS 33) set out how to calculate both basic earnings per share (EPS) and diluted EPS. The calculation of Basic EPS is based on the weighted average number of ordinary shares outstanding during the period, while diluted EPS also includes Dilutive potential ordinary shares (as options and convertible instrument) if they meet certain requirement.

Net Profit:

Net profit is an essential metric used in assessing a company's total financial health and viability for investments net profit is also known as net income, net earnings or bottom line. It is the total amount left over after subtracting all business expenses from its total revenue. In addition to cost of goods sold, other expenses for net profit includes operating expenses, income taxes, interest expenses on loans and debts, depreciation of fixed asset, and selling, general, and administrative expenses. Net profit calculations; total revenue includes the amount of money earned from product sales in addition to income from other places, such as investments.

Net profit account for all the company's expenses are revenue. It is a metric that reflects a company's actual profitability at the end of the year of accounting period. The net profit is often listed on the last line "bottom line" of a company's income statement.

Empirical Review

Akparhuere et al. (2019) researched on the relationship between asset management efficiency on performance of building and construction companies in Nigeria. They used asset turnover, inventory turnover, and working capital turnover for asset management proxy while profit after tax as performance proxy. The study used secondary data from 2006 to 2017 while using simple regression method to analyse the data. The result was that asset turnover did not have significant effect on performance of building and construction companies in Nigeria. On the other hand,

inventory turnover has significant effect on corporate performance of building and construction companies in Nigeria.

Toyin and Tajudeen (2015) examined the investment in fixed assets and firm profitability: empirical evidence from the Nigerian Banking Sector. The study evaluated the effect of investment in fixed assets on profitability of selected Nigerian banks. It also examined the significant parts of fixed assets investment of selected Nigerian Commercial Banks. Data was collected from annual reports and accounts of selected Nigerian commercial Banks. Pearson product moment correlation and multiple regressions were used to analyse the relationship between the dependent variable (Net profit) and independent variables (Building, Land, Leasehold premises, fixtures and fitting, and investment in computers.). Result reveals that there is a significant relationship between dependent variable (Net Profit) and the independent variables (Building, information communication and technology, machinery, leasehold, land and fixture and fitting) with the adjusted R² at 96%. Consequently, investments in fixed assets have strong and positive statistical effect on the profitability of banking sector in Nigeria. Improving bank profitability through efficient management of fixed assets, Nigerian banks should increase fixed assets investments in form of ICT. Fixed assets utilization and productivity should to be reviewed to boost profitability for shareholders' satisfaction.

Sana et al. (2015) examined the effect of debt financing on corporate financial performance: evidence from textile firms in Pakistan. This work investigate the effect of debt financing on firm's financial performance, measured as return on equity, using panel data of 95 textile companies in Pakistan from 2002-03 to 2007-08. The result reveals a nonlinear relationship between return on equity and debt-to-asset ratio. As the debt-to-asset ratio increases, initially the return on equity increases until an optimal debt level is attained, after that it begins to decrease. Optimal debt-to-asset ratio for Pakistan's textile firms is approximately 56 percent. It was revealed that, firm's sales growth has positive and significant impact on return on equity while the firm size has no significant impact on it.

Daniel and Zoltan, (2020) examined corporate bankruptcy prediction model, a special focus on listed companies in Kenya. The logic for developing and predicting the financial bankruptcy of a firm is aimed at developing a predictive model used to forecast the financial health of a firm by merging many econometric variables of interest to the researcher. The work seek to present profound learning models for corporate bankruptcy forecasting using textual disclosures. The work create a broad study model for predicting bankruptcy centred on listed companies in Kenya. The population of the study are 64 listed companies in the Nairobi Securities Exchange for ten years. Logistic analysis was employed in building a model for predicting the financial bankruptcy of a firm. The result shows that asset turnover, total asset, and working capital ratio had positive coefficients. Subsequently, inventory turnover, debt-equity ratio, debtors' turnover, debt ratio, and current ratio had negative coefficients. The work opined that inventory turnover, asset turnover, debt-equity ratio, debtors' turnover, total asset, debt ratio, current ratio, and working capital ratio were the most significant ratios for predicting bankruptcy.

Imhanzenobe (2019) examined the operational efficiency and financial sustainability of listed manufacturing companies in Nigeria. The work examined the impact of operational efficiency on the financial sustainability of listed manufacturing companies in Nigeria. The current economic crisis in Nigeria has caused an increasing decline in financial sustainability indicators of

manufacturing companies. Managers are required to make efficient use of resources to maximize profitability for sustainability and compete in the tough economic condition. The efficiency variables considered include; employee growth, operating expenses, account receivables turnover, inventory turnover and asset turnover. Secondary panel dataset from 2009 to 2016 for 16 listed manufacturing companies was gathered from the Bloomberg portal. The Ordinary Least Square method was used to test the 5 formulated hypotheses. The result shows that in relation to ROA, operating expenses and asset turnover had negative and positive significant relationship respectively. Employees' growth, account receivable turnover and inventory turnover were found to be insignificant. In relation to Tobin's q, both inventory and asset turnover had a positive significant relationship. Operating expense had a negative significant relationship. Again, employees' growth and account receivables turnover were found to be insignificant. Due to these results, the work proposes that the common notion of employee reduction and keeping a small workforce may not necessarily promote financial sustainability. The study recommends that firms should strive to reduce their operating expenses and apply efficient strategies that focuses on asset and inventory turnover.

Farooq (2019) investigated the impact of inventory turnover on the profitability of non-financial sector firms in Pakistan. The aim of this work is to estimate the effect of inventory turnover on firm profitability. Three dependent variables including return on asset, return on equity and net profitability margin ratio have been used for measurement. Interested variables is, inventory turnover ratio, while three control variables are; sales growth, net working capital and firm size. Sample size of 79 firms from cement, sugar and automobile sectors of Pakistan. Data from 2006 to 2015 were gathered. Generalized Method of Moment (GMM) was employed to detect the endogeneity. Three hypotheses were developed to check the relationship between dependent and independent variables. It was revealed that inventory turnover ratio does not significantly affect return on asset. Nevertheless sales growth ratio, net working capital, and firm size are significantly affected by inventory turnover. In the second model, inventory turnover ratio, networking capital (NWC), log of sale (LOS) and sales growth ratio do not affect return on equity. In the third regression model, the inventory turnover ratio and NWC do not affect net profitability margin ratio but LOS affects it. The work suggests that the management should give consideration to those variables which play a critical role in increasing the profitability of the company.

Miguel et al. (2017) examined asset management within commercial banking groups: International evidence. They estimated the performance of equity mutual funds run by asset management divisions of commercial banking groups using a worldwide sample. They opined that bank-consortium funds underperform unaffiliated funds by 70 basis points per year. Regular crisis of interest, the underperformance of affiliated funds is more pronounced among funds with larger stock holdings of the bank's lending customers. Divestitures of asset management divisions by banking groups and placebo tests using passive and international funds support a causal interpretation of the results. Their findings revealed that affiliated funds support their lending divisions' operations at the cost of fund investors.

Methodology

The research design adopted for this study was the ex post facto research design. The population of this study consisted of all listed construction companies in Nigeria which stands at Six (6), as listed on the Nigerian Exchange Group in 2021. However, Arbico Plc and Roads Nig. Plc have incomplete data under the period in view, which made the observation to be 53.

Data Analysis and Result

Test of Hypothesis 1

Ho₁: There is no significant relationship between inventory management and earnings per share.
Regression on the relationship between inventory management and earnings per share.

Number of obs = 53

R-squared = 0.1411

eps	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
im	-.0831674	.0692505	-1.20	0.236	-.2224048	.0560701
cons	26.75299	14.38877	1.86	0.069	-2.177574	55.68356

Source: output from STATA version 12.

Table above shows the regression result on inventory management and earnings per share. The table revealed the existence of a negative relationship between inventory management and earnings per share of listed construction companies on the Nigerian Exchange Group (p-value= 0.236). It means that a 1% increase in inventory management will bring about a 0.083% decrease in earnings per share all other variables held constant. Since the p-value of the independent variable is greater than 0.05, we therefore accept the null hypothesis that “There is no significant relationship between inventory management and earnings per share of listed construction companies in on the Nigerian Exchange Group.”

4.3.5 Test of Hypothesis 5

Ho2: There is no significant relationship between inventory management on net profit
 Regression on the relationship between inventory management and net profit.

Number of obs = 53

R-squared = 0.0694

np	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
im	.0908206	.1060715	0.86	0.396	-.1224503	.3040916
cons	-38.33534	43.43505	-0.88	0.382	-125.6674	48.99668

Source: output from STATA version 12.

Table above shows the regression result on inventory management and net profit. The table revealed the existence of a positive but insignificant relationship between inventory management and net profit of listed construction companies on the Nigerian Exchange Group (p-value= 0.396). It means that a 1% increase in inventory management will bring about a 0.091 % increase in net profit all other variables held constant. Since the p-value of the independent variable is greater than 0.05, we therefore accept the null hypothesis that “There is no significant relationship between inventory management and net profit of listed construction companies in on the Nigerian Exchange Group.”

Conclusion and Recommendations

This study concluded from the analyses carried out that statistically, there is no significant relationship between inventory management and financial performance. Based on the empirical results and findings obtained above, we therefore recommend the followings;

- (i) Effort should be made to decrease the number of inventory turnover days and increase the creditors’ payable days in order to minimize the length of the working capital cycle for increase financial performance.
- (ii) Efficient inventory control measure like storing and transferring stock, as well as tracking should be put in place for enhance financial performance.

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