COST REDUCTION AND FINANCIAL PERFORMANCE OF INDUSTRIAL GOODS FIRMS IN NIGERIA

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ABSTRACT

The research investigated the relationship between cost reduction and the financial performance of industrial goods companies in Nigeria. In particular, it focused on the impact of labor costs, office expenses, and material costs on the return on investments for these firms. The study utilized secondary data, which was gathered from the annual financial reports of ten (10) selected firms from 2015 to 2024. The data were analyzed through descriptive statistics, correlation analysis, and panel regression techniques, including pooled OLS, random effect estimation, and fixed effect estimation, along with the Hausman test and post-estimation tests for the models used in the research. The results indicated that labor costs have an insignificant negative impact on the return on investments of the firms studied, whereas office expenses and material costs have an insignificant positive impact on returns on investments. Consequently, the study concluded that cost reduction can have both positive and negative effects on the financial performance of industrial goods firms in Nigeria, particularly when assessed in terms of return on investments. The research recommended that these firms should maintain optimal control over labor costs, as any efforts to use it as a positive change agent for a specific financial performance metric could adversely affect another metric. Therefore, the reduction of labor costs by industrial goods firms should be approached with consideration of the overall performance objectives of the firms at any given time, ensuring that provisions are made to potentially trigger one financial performance measure without compromising another.

Keywords: *Cost Reduction, Labour Costs, Office Expenses, Material Costs, Industrial Goods Firms*

1.0 Introduction

Globalization, shorter product life cycles, technology advances, more rivals, and changing client preferences have made business more difficult (Adegbie & Fadere, 2020).

Business has always focused on boosting output and minimizing expenditures, especially before the industrial revolution (16th and 17th centuries). In the 20th century, firms prioritised operational continuity, which required rigorous cost control (Parker, 2018). Nworie and Nwoye (2023) say cost reduction may increase performance by raising revenue across product lines and services. Cost reduction requires methods to prevent wasting resources and promoting efficiency and cost sensitivity.

A company's cost is its overall activity spending, real or imaginary (Adeniji, 2009). The Chartered Institute of Management Accountants defines cost reduction as maintaining purpose and quality while lowering unit costs. It involves targeted and continual cost-cutting to boost firm profits (Jain, Kapoor, and Nateriga, 2013). Since global companies must lower production costs, managers should cut costs (McWatters, Morse, and Zimmerman, 2001).

Any well-planned cost reduction strategy should eliminate inefficient expenditure to boost a company's bottom line. Cost reduction aims to assist firms maximize resource use by finding and explaining cost-income disparities. With this firm foundation, cost reduction may be a strategy and a way for organizations to lower expenses without sacrificing quality (Mansor et al., 2018). Cost reduction refers to "the process of identifying and eliminating superfluous expenses within a business to improve profitability without compromising product quality." The corporation must strategically promote innovative thinking at all levels to save costs (Omah, 2024).

An approach to cutting expenses is called cost reduction. All cost components and organization areas must be regularly analyzed to improve operational efficiency. Cost reduction corrects. This method reduces operational costs to boost earnings. Since no cost is entirely balanced, it begins when cost management ends. Adeniyi (2001) states that lowering costs is based on the idea that current or future expenses are too high, even when the organization is at peak performance and adopting cost management measures.

Every firm must cut expenses to budget and eliminate wasteful expenditure, which boosts product demand. Businesses must decrease expenses to boost earnings. Only then can companies provide high-quality goods and services at cheaper prices than competitors. Cost management is crucial to corporate success, thus decreasing expenses is essential. Manufacturing companies may reduce labor, material, and production costs by value engineering and analysis, target costing, and life cycle costing (Nwanyanwu, Jonah & Court, 2023).

Cutting expenses makes a product or service cheaper per unit without losing quality. Better procedures may be employed. To reduce a company's manufacturing expenses, this technique searches elsewhere. Companies may enhance profits and save per-unit by decreasing costs. Cutting wasteful costs may improve product production, storage, sale, and distribution. Cost reduction reduces unit manufacturing costs without compromising quality for long-term benefits.

Cost management solutions may help industrial products companies save operating costs and boost profits. Strategies to minimize asset, sales, and people costs are crucial in the industrial products business, where efficiency and cost-effectiveness are competitive advantages for development and profitability (Nworie, Okafor & JohnAkamelu, 2022).

Akinleye and Fajuyagbe (2022) report that some manufacturing-related companies have failed or been bought by larger ones. Few Nigerian manufacturing firms have survived by decreasing expenses. No organization can survive without a strategy to control expenditures and remain under budget (Ajibola Nurudeen & Balogun 2024). Cost containment is essential for every successful company to survive.

To sum up, financial performance measures an organization's or individual's financial performance. It evaluates a company's capacity to create and manage revenues, assets, and other financial data using several measures (Nworie & Agwaramgbo, 2023).

This study examines how cost reduction impacts Nigerian manufacturing firms' financial performance. One goal is to assess how cost-cutting efforts affect these firms' finances. This

2015–2024 study focuses on 10 Nigerian industrial products manufacturers. These companies were selected for their industrial items since they were longtime Nigerian Exchange Group members with the biggest sales volume. This work includes a theoretical, empirical, and conceptual literature review. Data and Methods, Analysis and Discussion of Results, and Recommendations follow.

2.0 Review of Related Literature

2.1 Conceptual Review

2.1.1 Cost Reduction

The reduction of production costs has emerged as a key strategy for organizations to compete effectively in a global economy. Therefore, it is essential for managers to consistently prioritize cost reduction (Omah, 2024). Cost reduction involves a strategic approach aimed at minimizing expenses. This ongoing process entails a thorough examination of all cost components and various business aspects to enhance operational efficiency; thus, cost reduction serves as a corrective measure.

Reducing expenses is a way for a business to increase its profit margin. Assuming that no cost is currently at its optimal level, this method starts once cost control steps are completed. Adeniji (2011) argues that, even with effective cost management and organizational efficiency, the foundation for cost reduction is the belief that current or future cost levels are too high. A cost reduction strategy is one that "decreases the unit cost of goods or services without compromising their intended usability," according to the Chartered Institute of Management Accounting (CIMA).

Decreased spending may be achieved in a planned and beneficial way via cost reduction. The goal of cost reduction techniques is to cut down unnecessary spending, especially when material waste goes over budget or when production levels fall short of expectations. A cost-cutting initiative may seek to acquire new equipment or alter operating processes in such a way as to reduce anticipated expenditures to levels below current planned or standard levels. Both the budgeted and standard contexts display current expenditures, which include expenses as well as events that might lead to cost savings.
In order to save costs, businesses need to use the right accounting methods to look at their past and future financial data, which will help them set reasonable financial objectives and make smart choices about how to cut costs (Parker, 2018). The goal is to offer managers the data they need to make better decisions and have better control over the resources of their firm (Wilson, 2016). Ezejiofor, Nwakoby, & Okoye (2015) state that cost reduction methods include the concepts and processes needed for successful planning and decision-making, which in turn allows for the examination of many business choices and the management of performance assessment and interpretation.

Fast and reliable information is provided by the cost reduction approaches to aid in cost management and to evaluate and enhance productivity. In order to decrease a company's spending on products and activities, a cost reduction strategy incorporates many approaches to planning, monitoring, and reporting. Evaluation of expenditures for efficient cost management and well-informed decision-making is the first step in developing a strategy to cut costs (Oluyinka, 2016). Decisions on manufacturing or procurement, evaluations of

buying effectiveness, and pricing negotiations are all possible with the use of these tactics. The goal of cost management techniques is to help businesses control and reduce costs by calculating the whole cost of producing goods or providing services. Focusing on performance evaluation and future predictions to cut costs, the cost reduction strategy is mostly for internal management. Reducing costs is a methodical strategy for improving product processing, manufacturing, and service delivery while cutting costs as much as possible.

According to Lawal (2017), cutting costs is all about making the most of an organization's money. The unit cost of produced things is immediately affected by this form of decrease, which is lasting since it maintains the required quality (Olayinka, 2019). Establishing beneficial standard costs while maintaining product value is the idea of cost reduction. It eliminates several forms of waste and unnecessary expenses in a systematic way, which enhances profit margins without compromising revenue development. Profit augmentation or cost optimization are some names for it. The reduction of labor costs, office expenditures, and material expenses is the primary objective of this study.

2.1.2 Financial Performance

Kinyugo (2014) suggests using the capital adequacy ratio, liquidity, leverage, solvency, and profitability to assess a company's financial performance throughout time, including capital acquisition and deployment. This shows how successfully the organization handles resources. This statement helps evaluate a company's financial health to comparable companies in the same industry or other sectors (Alsoboa, Ali & Abdulhakim, 2015). Okegbe, Ofurum, and Darlington (2019) say economic organizations evaluate company performance.

A person's subjective appraisal of a company's key business operations' income is financial success (Nworie, Onyeka, and Anaike, 2023). Performance assessments reveal that workers may enhance corporate value by making future cash flows more predictable and less risky or by collecting them sooner, according to Erasmus (2021). A company's growth, profitability, and financial stability depend most on performance, according to Gichuki (2014). Solvency, liquidity, return on assets, return on investments, and return on equity are financial measures of corporate health.

Nelly (2010) says business performance measures serve three functions. As advocates of the company's values, they motivate and manage finances. Many studies have employed company success indicators. According to Adegbie and Fadere (2020), ROCE, NPM, and EPS can assess a company's finances.

Financial success is the key to advancement. Richardson (2002) promotes budgetary stability and revenue growth. Financial performance - liquidity, solvency, return on assets, return on investments, and return on equity - assesses a company's policies and activities. Neely (2001) says financial performance assessments have three goals. Financial statements reveal a company's financial health, showcase corporate objectives, and encourage and manage staff. Scholars employ many financial performance factors. According to Doyle (1994), Western corporations assess success by revenue.

2.1.2.1 Return on Investments

Return on investment (ROI) shows an organization's profitability and performance. Calculating net profit or loss as a percentage of investment cost captures financial performance. Performance review is a crucial aspect of ROI analysis, which organizations do thoroughly. It involves thoroughly assessing investments, efforts, and corporate strategies to evaluate their efficacy. Return on investment (ROI) is the basis of this research since it quantifies profits or losses relative to the original investment.

Businesses may determine which activities are more lucrative from this perspective, which helps them focus on their most profitable efforts. This assessment considers qualitative performance factors as well as quantitative ones. It may help companies evaluate their operations, initiatives, and strategic choices.

As a performance review tool, ROI helps firms identify strengths and weaknesses, encouraging data-driven decision-making. Companies may enhance their strategy, streamline processes, and strategically allocate resources to goals-aligned activities utilizing this analytical technique.

To conclude, ROI evaluation is continual and ever-changing. It helps companies adapt to changing market situations, enhance strategy, and concentrate on operational excellence. Through continual review, businesses may learn from their previous triumphs and errors and strengthen their future.

2.2 Theoretical Framework

Kaizen Costing Theory

Kaizen Costing Theory, developed by Yashuhiro Monden in 2001 (Industrial and Financial Systems), is the costing equivalent of Kaizen. Kaizen pricing is engrained in Japanese culture. 'Kaizen' means improving constantly. Several Japanese companies use kaizen and target costs at the start of product production. Companies with short to medium product life cycles prioritize target costs. They use multiple product iterations throughout the design and development process (i.e., target costing stages) to improve continuously. Companies in mature markets with longer product life cycles value kaizen more in their everyday operations. Kaizen requires every person to continually evaluate their work and find methods to improve it. It is the result of an enterprise-wide focus on collaborative workplace learning, not merely a pricing strategy. The former stated that direct labor costs may reduce via repetition of learning, while the latter showed that total costs could fall as tasks were performed. Despite these notions, kaizen extends beyond experience curves and utilizes more than previous occurrences to find improvement opportunities. Teams are encouraged to use smart, collaborative thinking and action to develop.

2.3 Empirical Review

Adesina and Tiamiyu (2025) employ descriptive statistics and panel regression analysis to examine cost management factors and profitability indicators including ROA, ROE, and NPM. The analysis utilized annual reports from Nigerian Exchange Group firms from 2014 to 2023. According to research, excessive manufacturing, marketing, distribution, and

administrative costs hurt profitability. AI-driven automation, lean manufacturing, and activity-based costing may boost productivity and save costs. This report proposes measures to enhance Nigeria's manufacturing sector's financial performance using modern cost management methodologies.

Ezechi and Onuora (2024) examined how Nigerian manufacturers cut costs and boosted efficiency from 2013 to 2022. Secondary sources provided variables. This ex-post facto study randomly selected 10 Nigerian industrial firms. The data was analyzed using panel least squares. Data on inventory costs, labor expenses, and sales costs was gathered from chosen consumer firms' financial records over many years. Inventory expenses are positively correlated with manufacturing enterprises' bottom lines, albeit the association is not statistically significant. Labor expenses boost manufacturing businesses' profits, but not statistically. However, cost of sales positively and statistically affects manufacturing enterprises' bottom lines. Since cost management rules affect an organization's financial performance, the report proposes lawmakers and transaction advisers promote their growth.

Ajibola, Nurudeen, and Balogun (2024) evaluate the profitability and cost management of 10 publicly listed Nigerian manufacturing enterprises. Researchers employed ex-post facto methods. This analysis used 2014–2023 secondary data from chosen organizations' financial records. For this data collection, analysts used descriptive statistics, correlations, and regression. The data shows that sales and distribution expenses significantly affect the selected enterprises' net profit margins. According to the data, potential supporters of publicly listed manufacturing enterprises may utilize distribution and sales expenditures to estimate net profit margin. Nigerian manufacturing enterprises should periodically assess production and operating costs to boost earnings.

Per Omah (2024). This research examines cost reduction and performance measures in Nigerian manufacturing enterprises in Rivers. Value analysis and value engineering assessed cost reduction programs, whereas return on assets and profit before tax measured performance. The Spearman Rank Order approach was used to identify variable associations from questionnaires. Analysis results: Value analysis and profit before tax are highly connected in selected Nigerian manufacturing enterprises.

These firms' value analysis and return on assets are also correlated. Last, value engineering and profit before tax are strongly linked to these firms.

Sunmonu, Odeyale, and Belau (2024) examine how cost-cutting affected numerous publicly listed Nigerian manufacturing companies. This study used panel data to assess 10 Nigeria Stock Exchange-listed consumer products businesses' 2018–2022 audited financial reports. We performed a static panel regression analysis in Eviews 10 to find the dependent-independent connection. As material costs and administrative expenses change, the net profit margin decreases, while turnover increases it. Thus, organizations should reduce administrative expenses without compromising key administrative tasks like improving production processes, outsourcing non-essential workers, and employing technology. To increase long-term turnover, organizations should decrease expenses, monitor budgets, and effectively manage material costs, including supplier relations.

Aggreh, Abiahu, and Nworie (2023) examine how cost reduction affects publicly listed Nigerian consumer products companies' financial performance. The study's main objective

was to evaluate how asset expenses, sales costs, and personnel costs influenced businesses' ROE. Ex-post facto research was utilized. A intentional selection method picked twelve firms from twenty for the research. From 2011 to 2020, we examined audited financial statements from publicly listed consumer goods companies to collect secondary data. We calculated test outcomes using Pooled Ordinary Least Squares regression at 5% significance. The research found that asset and sales expenses do not affect the return on equity of publicly listed consumer goods businesses in Nigeria as much as personnel costs. However, personnel expenses affect Nigerian listed consumer goods manufacturers' return on equity. Shareholders of publicly traded consumer products companies should advocate for worker training, development, and welfare programs since they affect the bottom line.

Nwanyanwu, Jonah, and Court (2023) examine how cost-cutting affects Nigerian publicly listed consumer goods businesses' financial performance. This research used six Nigerian Stock Exchange-listed consumer goods companies' 2017–2021 annual reports. In net profit, material costs, labor expenses, and overhead expenditures decreased, indicating financial success. The study employed multiple regression, correlation coefficients, and descriptive statistics. Cost-cutting methods are strongly correlated with financial success, according to empirical findings. The research found that cost-cutting strategies affect financial performance. To optimize cost savings, do value-engineering research.

Ali-Momoh, Egbekun, Omoolorun, Omole, and Aruna (2022) examined how well-run Nigerian manufacturing enterprises were financially and cost-effective. The research focused on how selling and distribution costs and administrative expenses affect these enterprises' post-tax profitability. The study used secondary data from ten organizations' 2011–2020 annual financial reports. Descriptive statistics, panel regression methods such pooled ordinary least squares (OLS), random effects estimation (RES), and fixed effects estimation were used to evaluate the models after estimate. The Hausman test was included. Administrative costs somewhat reduced the tested businesses' post-tax profit, whereas selling and distribution charges slightly increased it. Using profit after tax, the research indicated that cost management may have good and negative implications on financial performance for Nigerian manufacturing firms. Industrial organizations should not mismanage administrative expenses to improve one financial performance indicator over another, according to the report.

Niyi, Ogungbade, Igbekoyi, and Adesuyi evaluated how cost structure affects publicly listed Nigerian manufacturing companies' bottom lines in 2022. Seven industrial manufacturers listed on the Nigerian Exchange Group were analyzed using 2011–2020 financial data. Descriptive regression and correlation analysis were combined with ex-post facto research. The chosen industrial enterprises listed on the Nigerian Exchange Group exhibit a high correlation between cost structure and financial performance.

The report recommends assessing cost structure components to regulate and restrict its influence on manufacturing enterprises' profitability. The cost of each component should be considered.

In light of the Nigerian economy, Mamidu and Akinola (2019) examine how cost management best practices affect manufacturing business efficiency. This research is based on efficient structures, resource-based viewpoints, and portfolios. Secondary data revealed the problem. Sources included literature and yearly reports for secondary data. Data analysis using Ordinary Least Squares Linear Regression. The financial records of listed Nigerian

companies were reviewed for operating profit, the dependent variable, and direct material costs, direct labor charges, and production overhead, the independent variables. While shareholders' money and profitability are positively correlated (significant at the 5% level), so are total assets. This research found that cost management significantly impacts manufacturing businesses' profits. Effective cost management affects profitability, the research found.

The study reveals that corporate authorities and transaction advisers emphasize cost control strategies since they affect a company's financial success.

2.4 Gap in Literature

Related studies conducted to investigate the aforementioned issues include Adesina and Tiamiyu (2025); Ezechi and Onuora (2024); Ajibola, Nurudeen, and Balogun (2024); Omah (2024); Sunmonu, Odeyale, and Belau (2024); among others. The current literature that has explored the impact of cost reduction on the performance of consumer goods companies has overlooked the influence of labor costs, office expenses, and material costs as components of cost reduction. Instead, they concentrated on factors such as Downsizing the Number of Staff, Reducing Staff Salaries, Cost Cutting, and Outsourcing.

3.0 Methodology

The study employed ex-post facto research. This strategy works well for studies that use pre-existing data and don't allow changes. In retrospect, we can observe how the independent variable influenced the dependent variable or variables and what linkages it had. This study includes all thirteen industrial companies listed on the Nigerian Exchange Group (previously the Nigerian Stock Exchange) between 2015 and 2024. As of December 31, 2024, the NGX Daily Stock list includes 13 industrial companies (see appendix I).

Purposive sampling was utilized to get the primary research sample. This study sampled Nigerian Exchange Group-listed firms from December 2015 until 2024. As noted in Appendix II, the research sample only included organizations who regularly uploaded their annual reports online.

We examined audited financial statements from publicly listed industrial products companies from 2015 to 2024 in this secondary data collection. Along with staff, office, material, and other measures, the data was used to establish an organization's performance metric—return on investments. The research includes 100 firm-year observations from 13 participants throughout a decade. Descriptive statistics were used to examine the variables' minimum, maximum, standard deviations, and averages.

Correlation coefficient analysis was used in the regression model to evaluate, explain, and predict variable relationships.

Model Specification

Panel data analysis was best. This study employed panel data regression to investigate how independent factors influenced the dependent variable. This research employed Ali-Momoh, Egbekun, Omoolorun, Omole, and Aruna (2022)'s model:

PAT = f (ADC, SDC, FZE) …….. 3.1

In functional terms, the model of Ali- Momoh, Egbekun, Omoolorun, Omole, and Aruna, (2022) was described as follows:

PAT=f (ADC, SDC, FZE) …… 3.2

Aggregate analysis uses financial performance metrics like profit after tax (PAT), cost control variables like administrative costs (ADC) and selling/distribution expenses, and firm size (FZ), ignoring firm uniqueness and heterogeneity from 2011 to 2020.

The variable is defined as:

Where;
i = is the error term

PAT = Profit after tax

ADC = Administrative Costs

SDC = Selling and Distribution Costs

FZE = Firm Size

Ao = Constant

a1a2a3 = Vector of the independent variables

it = cross sectional of the observation and period of the research

The revised model of model of Ali- Momoh, Egbekun, Omoolorun, Omole, and Aruna, (2022) for this study is:

ROI = (LABC, OFFE, MATC, FZ) ……. 3.3

In functional terms, the model of Ali- Momoh, Egbekun, Omoolorun, Omole, and Aruna, (2022) was described as follows:

ROI = *f* (LABC, OFFE, MATC, FZ) …….. 3.4

Where;
i = is the error term
ROI = Returns on Investment
LABC = Labour Costs
OFFE = Office Expenses
MATC = Material Costs
FZE = Firm Size
Ao = Constant

a1a2a3 a4 = Vector of the independent variables
it = cross sectional of the observation and period of the research

4. Results and Discussion

4.1 Descriptive Analysis

Table 1: Descriptive Statistics of Variables

Variables	ROI	LABC	OFFE	MATC	FZ
Mean	23.15613	6.005489	7.654066	5.21549	6.51374
Std. Dev.	.0049716	16.44777	16.44777	12.053894	
Min.	-98.4081	0.0027403	.0045610	.0049758	0.076438
Max.	257.4036	100.5694	107.4588	104.64429	23.33280
Obs.	100	100	100	100	100

Source: *Eviews, 2025*

See the table above for variable descriptive statistics. This data includes average, dispersion, and extreme values for each variable. Table 1 shows that labor costs were 6.005489, office costs were 7.654066, material costs were 5.21549, and firm size was 6.51374. Return on investment was 23.15613. Return on investment (ROI), labor costs (0.0027403 billion to 100.5694 billion), office expenses (0.0045610 billion to 107.4588 billion), material costs (0.0049758 billion to 104.64429 billion), and business size can all affect a company's financial results.

4.2 Correlation Analysis

Table 2: Correlation statistics

	ROI	LABC	OFFE	MATC	FZ
ROI	1.0000				
LABC	0.0760	1.0000			
OFFE	0.5094	0.4325	1.0000		
MATC	0.3882	0.6459	0.3359	1.0000	
FZ	0.4095	0.7764	0.566	0.8764	1.0000

Table 2 shows the correlation coefficients for each research model's variable pair. The amount and direction of the relationship between the two study variables are revealed via correlation calculations. Investment returns have a correlation of 0.0760, labor expenses 0.5094, office expenses 0.3882, material costs 0.4095, and the firm itself. Most variable pairings in the calculated models exhibit minimal interaction, hence explanatory variable multi-collinearity is unlikely (Table 2).

4.3 An examination of how Labour Costs, Office Expenses, and Material Costs influence the Return on Investments of specific industrial goods companies in Nigeria.

A research on how labour, office, and material costs influenced the ROI of publicly traded industrial products companies is displayed below. Results include aggregated ordinary least squares estimates, fixed and random effect assessments, and limited F-tests and Hausman post-estimation investigations for consistency and efficiency. Additional findings following the estimate confirmed the model's applicability.

Table 3: Estimation Result

Coefficient	Pool	Prob.	Fixed	Prob.	Random	Prob.
C	-10.42516	0.000	-3542670	0.8652	-9.45377	0.0000
LABC	-1076335	0.0375	.000000	0.0395	-0.033672	0.7854
OFFE	.3389042	0.0029	-.085411	1.4601	0.0476112	0.4876
MATC	.6785408	0.0654	.098432	1.6709	0.065442	0.7659
FZ	-2466148	0.0000	0.0000	0.463287*	0.575678*	0.0000
	R^2 Adj.R^2 F.statistic=44.87 Prob(F-stat)=0.0000		R^2 = 0.8327 Adj R^2 = 0.7602 F-statistics=40.53 Prob(F-stat)=0.0000		**R^2** **Wald Chi** **Prob> chi^2 = 0.000** **Prob >chi^2+0.000**	
	Restricted F-Test 25.74(p=0.000>0.05)					

Note: Parameter estimates are represented as percentage changes, as the variables utilized for model estimation were transformed into natural logarithm form in conjunction with those expressed in percentage.
Source: *Eviews, (2025)*

Table 3 displays fixed effect, random effect, and pooled OLS estimation results and the restricted F-test and Hausman test used to assess estimator consistency and efficacy. The data in Table 3 rejects the null hypothesis that all differential intercepts for each cross-sectional unit (firm) are zero. This does not apply to period-specific intercepts. Due to the substantial cross-sectional variability in industrial product company data, cross-sectional fixed effects estimates are preferred over pooled OLS estimates.

Hausman chi-squared calculated the probability at 0.5940. The coefficient differences between fixed effect and random effect estimates were not statistically significant, hence the null hypothesis was not rejected. The random effect estimate yielded the best and most efficient outcomes in this study. Labor costs negatively and insignificantly affect investment returns when adjusting for sample company heterogeneity and temporal effects (via the error term), as seen un Table 3. For every 1% rise in labor expenses, investment returns decline 0.04%.

Table 3 indicates that office overhead costs favorably impact investment returns, although the effect is not statistically significant (p=0.995 < 0.05) based on the random effects model. For every 1% increase in office expenditure, investment returns grow 0.006%. Even better, the R2 value of 0.8327 after integrating the heterogeneity impact into the random term demonstrates that cost control and company size explain 83% of investment return systematic variation.

Table 4: Other Post Estimation Test

	Wald Test	
Null Hypothesis	**Statistics**	**Probability**
Panel homoscedasticity	1.8570	0.3908
	Pesaran	
Null hypothesis	**Statistics**	**Probability**
No cross-sectional dependence	-1.398	0.1569
	Wooldridge test	
Null hypothesis	**Statistics**	**Probability**

No AR(1)panel autocorrelation	1.7659	0.3874

Source: *Eviews, (2025)*

Based on Wald, Pesaran, and Wooldridge probability statistics of 0.3908, 0.1569, and 0.3874 > 0.05, Table 4 shows that there is insufficient evidence to reject the null hypothesis of panel homoscedasticity, no cross-sectional dependence, and no AR (1) panel autocorrelation. Since there is no serial autocorrelation, this study supports residual homoscedasticity and cross-sectional independence.

5.0 Implications of the Findings and Conclusion

Returns on investments showed that labor, office, and material costs boosted industrial enterprises' profitability. Labor, office, and material costs were strongly correlated, supporting Nelson, George, Muriithi, and Isaac (2014). According to their analysis, Nigerian manufacturing firms may enhance profits by decreasing expenses.

Akeem (2017) found that publicly listed US manufacturing businesses with greater cost management performed better financially. This research shows that cost management improves these enterprises' financial success and emphasizes its relevance. The findings show that decreasing costs is one of the greatest methods for industrial products manufacturers to survive.

Ali-Momoh, Egbekun, Omoolorun, Omole, and Aruna (2022) found that better cost management in firms increased earnings. Office expenditures affected investment returns in the reviewed business, while labor costs did not. According to this research, cost-control techniques are unlikely to boost Nigerian industrial products businesses' profits. The study's results informed this prediction. Returns on investments demonstrate that lowering costs may have both positive and negative consequences for Nigerian industrial products companies.

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