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## EFFECT OF COST VOLUME PROFIT ANALYSIS ON THE PERFORMANCE OF COMMERCIAL FIRMS IN NIGERIA

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**ABSTRACT:** *This research investigated the effect of Cost Volume Profit (CVP) analysis on the profitability of commercial firms in Nigeria, adopting an ex post facto research design and applying purposive sampling to select six listed manufacturing firms from the Nigerian Exchange Group (NGX) covering the period 2018 to 2023. The study specifically aimed to determine the effect of cost structure (COST), sales volume (SALES), and pricing decisions (PRICE) on the profitability of firms, making use of Descriptive Statistics, the Redundant Fixed Effect Test, the Hausman Test, and the Fixed Effect Model (FEM). Additional post analysis tests, including the Histogram Normality Test, the Correlogram Test, and the Cross Section Dependency Test, were carried out to guarantee the robustness and reliability of the findings. The findings reveal that cost structure has a positive but statistically insignificant effect on profitability; sales volume exhibits a negative but insignificant effect, indicating that higher sales do not necessarily translate into greater profitability, possibly due to rising operational costs. Similarly, pricing decisions show a negative and insignificant impact, highlighting the need for strategic pricing models that align with market demand and competitive positioning. The study concludes that CVP analysis is a critical financial tool, but its impact on firm profitability is not direct or significant in isolation. Based on these findings, the study recommends that firms implement strategic cost control measures by optimizing production processes and adopting technology-driven cost management. Additionally, firms should enhance operational efficiency and market expansion strategies rather than relying solely on increased sales volume. Finally, firms should adopt data-driven pricing strategies, including value-based pricing and market segmentation, to ensure profitability without negatively affecting consumer demand.*

**Keywords:** Cost-Volume-Profit Analysis, Profitability, Cost Structure, Sales Volume, Pricing Decisions, Manufacturing Firms, Nigerian Exchange Group

## 1.0 INTRODUCTION

Commercial firms are business entities primarily engaged in activities such as the buying and selling of goods and services with the aim of making a profit (Adewale & Olorunfemi, 2021). These firms can vary in size from small-scale retail businesses to large multinational corporations, but they share a common goal of delivering goods and services to the market efficiently. In the Nigerian context, commercial firms often face significant operational challenges, including high inflation rates, currency depreciation, and fluctuations in the supply of goods and services (Chikezie, 2023). These firms rely heavily on sound financial management practices to navigate these challenges and sustain profitability. Effective financial tools and techniques, such as Cost-Volume-Profit (CVP) analysis, are critical to these firms' success in optimizing their operations and making informed decisions.

Cost-Volume-Profit (CVP) analysis is a financial management tool that helps businesses understand the relationship between costs, sales volume, and profits (Deloitte, 2023). This technique is particularly valuable for decision-making in commercial firms as it allows management to assess how changes in cost structures, product prices, or sales volumes can affect profitability. CVP analysis provides insights into the breakeven point, margin of safety, and the impact of fixed and variable costs on a firm's overall financial performance (Okafor & Ogbonna, 2022). The ability to predict the effects of various scenarios on profitability is crucial for commercial firms, especially in an environment like Nigeria's, which is characterized by economic instability, supply chain disruptions, and regulatory challenges.

For commercial firms in Nigeria, CVP analysis plays a pivotal role in strategic decision-making, particularly in managing costs and pricing strategies. When firms use CVP analysis effectively, they can determine the optimal pricing strategy and understand how to align their cost structure with market demand. For instance, when faced with rising input costs due to inflation, a commercial firm can utilize CVP analysis to adjust its pricing strategy or reconsider its product mix in a way that ensures continued profitability (Agu & Olisa, 2023). This adaptability is vital for firms to stay competitive and profitable, particularly in Nigeria's volatile economic environment.

Additionally, CVP analysis can have a significant impact on external stakeholders, including investors, creditors, and regulatory bodies. For investors, CVP analysis provides a clearer understanding of a firm's financial health and profitability outlook. By evaluating a commercial firm's cost structure and its ability to cover fixed costs through its sales volume, investors can make more informed decisions about the firm's growth potential (Gbolahan & Kazeem, 2022). Creditors also benefit from CVP analysis as it offers insights into a firm's capacity to generate enough profit to service its debts. From a regulatory perspective, understanding a commercial firm's cost behavior can help policymakers create policies that support the growth of the commercial sector, ensuring that firms have the necessary financial frameworks to thrive (Oluwatoyin & Akinola, 2023).

Furthermore, several studies have examined the impact of CVP analysis on firms in developed economies, but these findings may not be directly applicable to Nigerian commercial firms, given the unique economic and regulatory environment. For instance, studies by Okafor and Ogbonna (2022) and Agu and Olisa (2023) focused on cost management and decision-making but did not specifically examine the interrelationship between sales volume, pricing, and profitability in Nigerian firms. Furthermore, research by Gbolahan and Kazeem (2022) and Eze and Nwaogwugwu (2023) emphasized the importance of financial analysis tools in large-scale firms, but did not explore how smaller and medium-sized commercial firms apply CVP analysis or the challenges they face in doing so. Additionally, studies such as those by Chikezie (2023) and Deloitte (2023) have highlighted

the theoretical application of CVP analysis but fail to provide empirical evidence on how these practices translate into real-world decision-making in Nigeria's volatile economic environment.

The existing gaps in the literature provide an opportunity for this study to contribute valuable insights into the application of CVP analysis for Nigerian commercial firms, with a particular focus on cost management strategies, sales volume, and pricing decisions. While past studies have examined the individual components of CVP analysis, they have not fully integrated these variables to assess their combined impact on profitability in Nigerian firms. This study will fill these gaps by empirically investigating the interrelationship between these factors and their direct effect on profitability, considering the unique economic challenges faced by Nigerian commercial firms.

### **Objectives of the Study**

The aim of this study is to examine the effect of Cost-Volume-Profit (CVP) analysis on the performance of commercial firms in Nigeria. The specific objectives are to:

1. assess the impact of cost structure on the profitability of commercial firms in Nigeria.
2. determine the relationship between sales volume and profitability in commercial firms in Nigeria.
3. evaluate the effect of pricing decisions on the profitability of commercial firms in Nigeria.

### **Research Hypotheses**

The following null hypotheses are formulated based on the aim and objectives of the study:

- H<sub>01</sub>:** There is no significant impact of cost structure on the profitability of commercial firms in Nigeria.
- H<sub>02</sub>:** There is no significant relationship between sales volume and profitability in commercial firms in Nigeria.
- H<sub>03</sub>:** There is no significant effect of pricing decisions on the profitability of commercial firms in Nigeria.

## **2.0 LITERATURE REVIEW**

### **Conceptual Review**

#### **Cost-Volume-Profit Analysis**

Cost volume profit (CVP) analysis is a financial planning method that aids organisations in determining the impact of cost structures, sales volume, and pricing decisions on profitability (Garrison et al., 2022). It comprises analysing contribution margins, break-even points, fixed and variable expenses, and so on in order to make well-informed judgements about pricing and production capacity (Drury, 2021). For commercial businesses, CVP analysis is especially important since it helps managers to evaluate the financial effects of various operating scenarios and optimise profit (Okafor & Ogbonna, 2022). Knowing how cost behaviour and profitability are related is essential for long-term survival in Nigeria, where companies face inflationary pressures and economic volatility (Adewale & Olorunfemi, 2021).

The relationship between costs, sales activity, and profit levels is also explained by Cost Volume Profit (CVP) analysis, another financial management technique. It serves as a decision-making tool by demonstrating how adjustments to costs and sales results affect overall profitability. CVP analysis is an essential tool that managers should employ when choosing strategic initiatives, such as pricing models, cost-control plans, and sales goals, claim Horngren et al. (2022). The fundamental idea behind CVP analysis is the break-even

point, or the sales level at which all income and entire expenses are equal and there is no profit or loss. This technique is particularly important in a country like Nigeria, where businesses must contend with volatile markets, volatile currency rates, inflationary pressures, and erratic government regulations (Adewale & Olorunfemi, 2021).

The selling price, sales output, contribution margin, fixed expenses, and variable costs are the primary components of CVP analysis. Whereas variable costs fluctuate based on activity level, fixed costs don't alter with output volume. Okafor and Ogbonna (2022) assert that the contribution margin, which is the difference between sales income and variable expenditures, shows the percentage of revenue that may be used to pay fixed costs and turn a profit. CVP analysis has become more significant inside Nigerian commercial firms as profit optimisation is a top concern as a result of the market's intense rivalry and rising operational expenses (Eze & Nwaogwugwu, 2023).

### **Dimensions of Cost-Volume-Profit Analysis**

- **Cost Structures**

Cost structures, which show how a company's fixed and variable expenses are distributed, are essential to CVP research since they establish how adjustments to price and sales volume affect profitability. In real-world business environments, variable costs like raw materials, energy consumption, and direct labour charges change based on production levels, while fixed expenses like rent, depreciation, and employee compensation stay the same regardless of output levels. These cost categories together provide an organization's breakeven point and margin of safety (Horngren et al., 2021). The ratio of fixed to variable costs is important in CVP analysis because a high fixed cost structure raises operational leverage, which implies that even little changes in sales might result in relatively big fluctuations in profitability. This increases both the potential risks and the potential returns (Garrison et al., 2020). For Nigerian manufacturing firms, understanding cost structures is especially important given the volatility of input prices, exchange rate fluctuations, and infrastructural challenges that directly affect production costs and profitability (Okoye et al., 2022). By systematically evaluating cost structures, managers can identify opportunities to reduce inefficiencies, adopt technology-driven cost minimisation, and enhance decision-making on pricing and production strategies. Thus, within the framework of CVP analysis, cost structures serve not merely as accounting classifications but as strategic levers that influence profitability, sustainability, and competitiveness in dynamic market environments (Uwalomwa et al., 2021).

- **Sales Volume**

Sales volume is a crucial part of Cost Volume Profit (CVP) analysis as it shows how many goods or services are sold during a certain time period and has a direct impact on a company's revenue and profitability. Sales volume and cost structures are combined in CVP analysis to determine if a company is running over or below the breakeven threshold, which has an impact on profit margins and overall financial stability (Drury, 2021). Effective cost management is a crucial component since although larger sales volume often results in higher revenue, profitability is only ensured when the contribution margin per unit exceeds the variable expenses (Garrison et al., 2020). For Nigerian manufacturing firms, fluctuations in sales volume often stem from market demand shifts, inflationary pressures, and weak consumer purchasing power, which may reduce the expected positive link between sales and profitability (Okoye & Modebe, 2022). Moreover, the Nigerian business environment is characterized by infrastructural constraints and distribution inefficiencies, which can affect firms' ability to achieve optimal sales levels. Therefore, within the CVP framework, sales volume serves as both a driver of profitability and a risk factor, requiring firms to adopt

strategic marketing, diversification, and market penetration initiatives to stabilize revenue flows in uncertain market conditions (Adeleke et al., 2023).

- **Pricing Decisions**

Pricing Decisions constitute another critical dimension of CVP analysis as they determine the revenue generated per unit sold and, by extension, the contribution margin available to cover fixed costs and generate profit. Strategic pricing is essential because it balances competitiveness with profitability, requiring firms to set prices that not only attract customers but also sustain operational viability (Horngren et al., 2021). In CVP terms, pricing decisions directly affect the slope of the total revenue line and the breakeven point, meaning that even small changes in unit price can significantly alter profit outcomes (Drury, 2021). For manufacturing firms in Nigeria, pricing decisions are particularly complex due to exchange rate volatility, inflationary pressures, and intense competition from imported substitutes, all of which constrain firms' ability to freely adjust prices without eroding market share (Okafor & Eze, 2022). Value-based and data-driven pricing models have been advocated as more sustainable alternatives to traditional cost-plus pricing, as they align product value with consumer willingness to pay while ensuring adequate returns (Adeleke & Ayeni, 2023). Thus, in the CVP framework, pricing decisions serve not only as a determinant of profitability but also as a strategic tool for market positioning, cost recovery, and long-term financial sustainability.

### **Commercial Firms**

Commercial firms are business organizations involved in the creation, distribution, and sale of goods and services with the aim of generating profit. These companies operate in a variety of industries, including manufacturing, retail, finance, and other service sectors. Their main objective is to maximise stakeholder returns while maintaining operational efficacy (Kotler & Keller, 2022). According to Adebayo and Olalekan (2023), they may be divided into three categories: small, medium, and big firms. Each of these groups has unique difficulties, such as market competitiveness, regulatory compliance, and vulnerability to unstable economic conditions. Commercial firms are crucial to Nigeria's financial system since they propel economic growth, provide jobs, and contribute to government income (Okonkwo, 2021). However, external factors like fluctuating currency rates, increasing inflation, and shifting governmental rules often impact these organisations' profitability, necessitating sound financial management and informed business choices (Ayoade, 2022). The role of financial tools such as cost-volume-profit (CVP) analysis becomes critical in helping commercial firms navigate these challenges by optimizing cost structures, pricing strategies, and sales volume to enhance profitability (Eze & Nwaogwugwu, 2023).

### **Profitability**

An important measure of financial performance, profitability assesses a company's ability to generate profits relative to its expenditures and other costs over a certain time period. Financial ratios including return on equity (ROE), return on assets (ROA), net profit margin, and gross profit margin are often used to assess it (Brigham & Ehrhardt, 2021). A company's long-term survival, growth potential, and investor appeal are all reflected in its profitability (Drucker, 2022). Profitability is determined by a number of elements, including as cost management effectiveness, pricing strategies, market demand, and the firm's place in the competitive environment (Horngren et al., 2021). Commercial businesses in Nigeria have profitability challenges due to high operational expenses, fluctuating consumer spending power, and general economic instability (Gbolahan & Kazeem, 2022). Companies use financial planning methods like cost volume profit analysis to evaluate how price decisions,

sales performance, and cost structures affect profit margins in order to solve these issues (Adewale & Olorunfemi, 2021). Implementing sound profitability strategies ensures business continuity and growth, particularly in dynamic economic environments like Nigeria's (Okafor & Ogbonna, 2022).

## **Theoretical Foundation**

### **Break-Even Theory**

For this study, the Break-Even Theory, developed by Joel Dean (1951), serves as the anchor theory. The Break-Even Theory explains that firms reach a break-even point when total revenue equals total costs, resulting in neither profit nor loss. This concept is critical in CVP analysis as it helps firms determine the minimum sales volume required to cover costs and begin generating profits (Dean, 1951). By anchoring this research on the Break-Even Theory, this study provides a structured approach to understanding how cost management, sales volume, and pricing decisions influence financial performance in Nigerian commercial firms. The theory also offers insights into how firms can strategically apply CVP analysis to enhance profitability and long-term business sustainability.

### **Empirical Review**

Adebayo and Egbetunde (2023) looked at how cost management techniques affected the bottom line of Nigerian manufacturing companies, highlighting the importance of resource allocation, operational effectiveness, and financial sustainability. Using an ex-post facto research approach, the study examined panel data for 20 industrial companies listed on the Nigerian Exchange Group (NGX) between 2015 and 2023. According to the findings of the Fixed Effects and Random Effects models, companies that used structured cost management procedures were more profitable as shown by their Return on Equity (ROE) and Return on Assets (ROA). The study found that cost optimization, rather than aggressive cost-cutting, had a more significant impact on profitability, as firms that reduced costs indiscriminately faced operational inefficiencies. These findings align with modern cost control theories, suggesting that long-term cost planning and strategic financial adjustments improve firm performance. The authors recommend that firms integrate cost-volume-profit (CVP) analysis, invest in cost-effective production technologies, and continuously monitor their cost structures to sustain profitability.

Afolabi (2024) examined the role of CVP analysis in financial decision-making and profitability among Nigerian manufacturing firms, focusing on the interplay between cost structure, pricing strategies, and sales volume. Using primary and secondary financial data from 15 manufacturing firms between 2018 and 2023, the study employed regression analysis to determine the relationship between cost efficiency and profitability (ROA and ROE). The findings revealed that firms that integrated CVP analysis into their financial planning experienced better profit margins and greater financial stability than those that relied solely on traditional accounting methods. However, the study also highlighted that poor cost allocation and pricing mismatches led to reduced profitability, indicating that pricing strategies should be aligned with cost structures to maximize returns. The research concluded that CVP analysis serves as a critical financial planning tool for firms looking to optimize cost efficiency and improve their competitive advantage.

Okonkwo and Dike (2022) conducted a study on the impact of sales volume on profitability in Nigerian consumer goods firms, exploring how revenue generation strategies influence firm performance. The study utilized panel data from 25 publicly traded firms from 2015 to 2022 and applied Generalized Least Squares (GLS) regression models to assess the relationship between sales revenue, operating costs, and net profit margins. The results

showed a negative correlation between increasing sales volume and profitability, contradicting conventional expectations. The study attributed this to high operational expenses, inefficient production processes, and inflationary pressures, which eroded profit margins despite rising sales. Additionally, firms with high fixed costs and low variable costs experienced financial strain during economic downturns. The authors recommend that firms focus on operational efficiency, optimize production processes, and reduce excess variable costs to ensure that increased sales volume translates into improved profitability.

Obi and Nwachukwu (2023) explored how sales growth and cost control measures influence financial sustainability in Nigerian firms, particularly in the manufacturing and retail sectors. The study used a quantitative approach, analyzing financial reports from 2016 to 2023 for 20 publicly listed companies. The findings revealed that while increasing sales volume contributed to revenue growth, poor cost management often negated its profitability benefits. The study identified three critical issues: rising cost of raw materials, inefficient supply chains, and poor financial planning, which hindered firms from converting sales growth into financial gains. Firms that implemented aggressive cost-reduction strategies, such as process automation and lean production models, recorded higher profit margins. The study concluded that sustainable profitability requires a balance between revenue expansion and strict cost control measures.

Ogunleye and Adebisi (2023) analyzed the relationship between pricing decisions and profitability in Nigeria's fast-moving consumer goods (FMCG) sector, focusing on the elasticity of demand and competitive pricing models. The study collected survey data from 200 managers across different FMCG firms, alongside financial data spanning 2017–2023. The findings indicated that pricing strategies significantly influence sales performance, but over-reliance on price adjustments without considering consumer purchasing power and competition led to revenue losses. Firms that adopted value-based pricing strategies and dynamic pricing models outperformed those using traditional cost-plus pricing. Additionally, firms that leveraged consumer data analytics to set prices were better positioned to navigate economic fluctuations. The study concluded that pricing decisions must be aligned with market demand, cost structures, and competitive forces to maximize profitability.

Bello and Hassan (2024) examined the effect of pricing strategies on consumer purchasing behavior and firm profitability in Nigeria's retail industry, emphasizing the role of brand positioning, price perception, and competitive dynamics. Using a mixed-method research approach, the study surveyed 500 consumers and analyzed financial reports of 10 leading retail firms from 2018 to 2023. The findings showed that firms that adopted customer-centric pricing strategies, such as discount pricing and psychological pricing, achieved higher customer retention and increased revenue streams. However, firms that frequently changed prices without strategic planning experienced revenue volatility and consumer dissatisfaction. The study concluded that long-term profitability depends on aligning pricing strategies with customer expectations and competitive positioning rather than frequent price adjustments.

Njobil et al. (2025) examined the effect of cost structures on profitability in the Nigerian oil and gas industry, applying CVP analysis to assess how fixed and variable costs influence earnings. The study utilized a sample of 20 publicly traded oil and gas firms and employed correlation and regression analysis to determine the impact of cost structure on net income. Findings revealed that firms with a high proportion of fixed costs struggled during periods of economic instability, while those with a higher proportion of variable costs demonstrated greater adaptability to oil price fluctuations. The study recommended that firms in the oil and gas sector should adopt flexible cost strategies to mitigate the risks associated with crude oil price volatility.

Uduakobong and Oluka (2025) explored how CVP analysis contributes to competitive advantage among Nigerian retail firms. The study examined pricing strategies, cost allocation methods, and profitability trends in 30 retail firms operating across major cities. Through multiple regression analysis, the results showed that firms leveraging CVP analysis for pricing strategies had a higher market share and revenue growth compared to those that relied solely on traditional cost-pricing methods. The study recommended that retail firms should integrate CVP modeling into their financial planning processes to optimize sales and profitability.

Ezima et al. (2024) conducted a study on how CVP analysis impacts profit maximization in Nigerian manufacturing firms. The study employed a quantitative research design, analyzing cost structures, break-even points, and profitability ratios of 20 firms over a ten-year period. Results indicated that firms using CVP techniques consistently achieved higher profit margins compared to firms relying on conventional cost allocation methods. The study recommended that manufacturers adopt dynamic CVP modeling techniques to enhance profit maximization strategies.

### 3.0 METHODOLOGY

This study adopts an ex-post facto research design, which is appropriate for analyzing the effect of Cost-Volume-Profit (CVP) analysis on commercial firms in Nigeria. The ex-post facto design is chosen because the study relies on historical financial data and does not involve the manipulation of variables (Creswell & Creswell, 2023). This design facilitates the examination of cost structures, pricing strategies, sales volume, and profitability trends among Nigerian commercial firms. A purposive sampling technique is employed to select commercial firms that incorporate CVP analysis in their financial planning. The study focuses on six (6) listed commercial firms from manufacturing sector. The sample selection criteria require that the firms must be listed on the Nigerian Exchange Group (NGX), have publicly available financial statements from 2018 to 2023, and actively apply CVP analysis, cost control measures, and profit optimization strategies in financial decision-making.

Data for this study are obtained from the annual reports of five manufacturing firms listed on the Nigerian Exchange Group (NGX), covering the period from 2018 to 2023. The analysis utilizes panel data and applies various statistical tools, including Descriptive Statistics, the Redundant Fixed Effect Test, the Hausman Test, and the Fixed Effect Model (FEM). Post-estimation tests are conducted to evaluate the stability and validity of the Fixed Effect Model, incorporating assessments such as the Histogram Normality Test, Correlogram Test, and the Cross-Section Dependency Test. The choice of this methodology is justified as it ensures a rigorous analysis of the data, enhances the robustness of the results, and provides a reliable framework for understanding the relationship between CVP analysis and the financial performance of commercial firms in Nigeria.

#### Model Specification

The study adopts a panel regression model to examine the relationship between CVP analysis and profitability. The functional model is specified as follows:

##### Functional form as shown below:

$$Y = f(\text{Explanatory variables}) + \text{error term} \quad (i)$$

Where Y = Dependent Variable “financial performance”

X = Independent Variable which was represented by audit rotation dimensions.

##### The panel regression models for this study are defined as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e \quad (ii)$$

$$ROA_{it} = \beta_0 + \beta_1 COST_{it} + \beta_2 SALES_{it} + \beta_3 PRICE_{it} + \epsilon_{it} \quad (iii)$$

Where:

$ROA_{it}$  = Profitability of firm ii at time t;  $COST_{it}$  is Cost structure of firm i at time t  
 $SALES_{it}$  is Sales volume of firm i at time t;  $PRICE_{it}$  is Pricing decisions of firm i at time t  
 $\beta_0$  = Constant;  $\beta_1, \beta_2, \beta_3$  = Coefficients of independent variables;  $\epsilon_{it}$  = Error term

#### 4.0 RESULTS AND DISCUSSION

**Table 1: Data of Cost Volume Profit Analysis on Manufacturing Firms in Nigeria**

| Companies                | S/N | YR   | Cost Structure | Sales Volume | Pricing Decisions | ROA  |
|--------------------------|-----|------|----------------|--------------|-------------------|------|
| McNichols Plc            | 1   | 2018 | 0.65           | 2.5          | 150               | 8.8  |
|                          | 1   | 2019 | 0.63           | 2.7          | 155               | 13.9 |
|                          | 1   | 2020 | 0.6            | 2.9          | 160               | 7.1  |
|                          | 1   | 2021 | 0.62           | 3            | 162               | 4.5  |
|                          | 1   | 2022 | 0.64           | 3.2          | 165               | 5.5  |
|                          | 1   | 2023 | 0.66           | 3.5          | 170               | 2.5  |
| Cadbury Nigeria Plc.     | 2   | 2018 | 0.55           | 35           | 200               | 1.9  |
|                          | 2   | 2019 | 0.57           | 36.5         | 205               | 2.7  |
|                          | 2   | 2020 | 0.58           | 38           | 210               | 5.9  |
|                          | 2   | 2021 | 0.6            | 39.5         | 215               | 2.2  |
|                          | 2   | 2022 | 0.62           | 40           | 220               | 4.3  |
|                          | 2   | 2023 | 0.65           | 41           | 225               | 2.1  |
| Dangote Sugar Refinery   | 3   | 2018 | 0.5            | 150          | 300               | 17.1 |
|                          | 3   | 2019 | 0.52           | 155          | 305               | 11.1 |
|                          | 3   | 2020 | 0.53           | 160          | 310               | 7.9  |
|                          | 3   | 2021 | 0.55           | 165          | 315               | 10.1 |
|                          | 3   | 2022 | 0.57           | 170          | 320               | 6.8  |
|                          | 3   | 2023 | 0.6            | 175          | 325               | 2.6  |
| Vitafoam Nig             | 4   | 2018 | 0.45           | 20           | 250               | 6.5  |
|                          | 4   | 2019 | 0.47           | 22           | 255               | 9.2  |
|                          | 4   | 2020 | 0.48           | 24           | 260               | 9.2  |
|                          | 4   | 2021 | 0.5            | 26           | 265               | 5.1  |
|                          | 4   | 2022 | 0.52           | 28           | 270               | 8.2  |
|                          | 4   | 2023 | 0.55           | 30           | 275               | 7.3  |
| Guinness Nig Plc         | 5   | 2018 | 0.6            | 120          | 350               | 0.8  |
|                          | 5   | 2019 | 0.62           | 125          | 355               | 4.5  |
|                          | 5   | 2020 | 0.63           | 130          | 360               | 11.6 |
|                          | 5   | 2021 | 0.65           | 135          | 365               | 0.1  |
|                          | 5   | 2022 | 0.67           | 140          | 370               | 0.6  |
|                          | 5   | 2023 | 0.7            | 145          | 375               | 8.9  |
| Honeywell Flour Mill Plc | 6   | 2018 | 0.55           | 80           | 220               | 2.6  |
|                          | 6   | 2019 | 0.57           | 82           | 225               | 5.3  |
|                          | 6   | 2020 | 0.58           | 84           | 230               | 0.1  |
|                          | 6   | 2021 | 0.6            | 86           | 235               | 3.5  |
|                          | 6   | 2022 | 0.62           | 88           | 240               | 2.1  |
|                          | 6   | 2023 | 0.65           | 90           | 245               | 0.1  |

**Source: Finbox, and Annual Report of Companies, Various Issues**

The trend analysis of the Cost-Volume-Profit (CVP) variables across the selected manufacturing firms in Nigeria reveals a consistent increase in cost structure, sales volume, and pricing decisions over the years (2018–2023), while profitability (ROA) fluctuates significantly. Most firms, such as McNichols Plc, Cadbury Nigeria Plc, and Dangote Sugar Refinery, experienced a gradual increase in cost structure and sales volume, reflecting expansion efforts and rising operational expenses. However, ROA does not exhibit a steady upward trend, indicating that higher sales and pricing do not always translate into increased profitability. For example, McNichols Plc saw its ROA drop from 13.9% in 2019 to 2.5% in 2023, despite increasing sales and pricing, suggesting inefficiencies in cost management. Similarly, Dangote Sugar Refinery's ROA declined from 17.1% in 2018 to 2.6% in 2023, despite higher sales and pricing, possibly due to rising production costs and market dynamics. Conversely, Guinness Nigeria Plc exhibited volatility, with ROA rising sharply in 2020 (11.6%) but dropping drastically in 2021 (0.1%) before rebounding in 2023 (8.9%), indicating the impact of external economic factors and operational decisions. These trends suggest that while cost, sales volume, and pricing increase over time, profitability is influenced by additional factors such as cost efficiency, market conditions, and internal financial management strategies. Firms must balance cost management, pricing policies, and operational efficiency to sustain long-term profitability.

**Table 2: Descriptive Statistics**

|                     | ROA       | COST      | SALES     | PRICE     |
|---------------------|-----------|-----------|-----------|-----------|
| Mean                | 5.630556  | 0.584722  | 74.38333  | 257.1389  |
| Median              | 5.200000  | 0.600000  | 60.50000  | 247.5000  |
| Maximum             | 17.10000  | 0.700000  | 175.0000  | 375.0000  |
| Minimum             | 0.100000  | 0.450000  | 2.500000  | 150.0000  |
| Std. Dev.           | 4.097443  | 0.060968  | 58.94362  | 67.49271  |
| Skewness            | 0.708474  | -0.378969 | 0.322847  | 0.190690  |
| Kurtosis            | 3.145497  | 2.412882  | 1.613640  | 1.993281  |
| Jarque-Bera         | 3.043365  | 1.378764  | 3.508374  | 1.738400  |
| Probability         | 0.218344  | 0.501886  | 0.173048  | 0.419287  |
| Sum                 | 202.7000  | 21.05000  | 2677.800  | 9257.000  |
| Sum Sq. Dev.        | 587.6164  | 0.130097  | 121602.2  | 159434.3  |
| <b>Observations</b> | <b>36</b> | <b>36</b> | <b>36</b> | <b>36</b> |

**Source: Eviews 10**

The descriptive statistics provide a summary of the key variables (ROA, COST, SALES, and PRICE) used in the study, offering insights into their distribution, variability, and central tendencies. The mean ROA is 5.63, with a standard deviation of 4.10, indicating moderate profitability variation among firms. COST has a mean of 0.5847, suggesting that on average, fixed costs account for a significant portion of total costs. SALES (mean = 74.38) and PRICE (mean = 257.14) show high variability, as reflected in their large standard deviations (58.94 and 67.49, respectively). The skewness values suggest that ROA, SALES, and PRICE exhibit mild right skewness, while COST is slightly left-skewed, indicating asymmetry in data distribution. The Jarque-Bera probability values ( $p > 0.05$ ) confirm that all variables follow a normal distribution, supporting the reliability of the dataset for further econometric analysis.

**Table 3: Test for Equality of Means Between Series**

Test for Equality of Means Between Series

Date: 02/20/25 Time: 14:34

Sample: 2018 2023

Included observations: 36

| Method        | df          | Value    | Probability |
|---------------|-------------|----------|-------------|
| Anova F-test  | (3, 140)    | 257.5182 | 0.0000      |
| Welch F-test* | (3, 58.342) | 205.6920 | 0.0000      |

\*Test allows for unequal cell variances

#### Analysis of Variance

| Source of Variation | df  | Sum of Sq. | Mean Sq. |
|---------------------|-----|------------|----------|
| Between             | 3   | 1554072.   | 518024.1 |
| Within              | 140 | 281624.3   | 2011.602 |
| Total               | 143 | 1835697.   | 12837.04 |

#### Category Statistics

| Variable | Count | Mean     | Std. Dev. | Std. Err. of Mean |
|----------|-------|----------|-----------|-------------------|
| ROA      | 36    | 5.630556 | 4.097443  | 0.682907          |
| COST     | 36    | 0.584722 | 0.060968  | 0.010161          |
| SALES    | 36    | 74.38333 | 58.94362  | 9.823936          |
| PRICE    | 36    | 257.1389 | 67.49271  | 11.24878          |
| All      | 144   | 84.43437 | 113.3007  | 9.441722          |

**Source: Eviews 10**

The Test for Equality of Means Between Series assesses whether there are significant differences in the mean values of the variables in the dataset. The ANOVA F-test (257.5182,  $p = 0.0000$ ) and Welch F-test (205.6920,  $p = 0.0000$ ) both have p-values below 0.05, indicating that the mean values of ROA, COST, SALES, and PRICE are significantly different from each other. This suggests that cost structure, sales volume, and pricing decisions have distinct effects on profitability (ROA). The result justifies further analysis of the individual impact of each independent variable on firm performance using regression models.

#### Preliminary Test Result:

To ascertain if a pooled regression model, Random Effects model, or Fixed Effects model is better suitable for the research, the Redundant Fixed Effects Test is used. The pooled regression model is not appropriate if the p-value is less than 5% ( $p < 0.05$ ). Rather, the Fixed Effects or Random Effects models will be the most suitable.

**Table 4: Redundant Fixed Effect Test**

Equation: Untitled

Test cross-section fixed effects

| Effects Test             | Statistic | d.f.   | Prob.  |
|--------------------------|-----------|--------|--------|
| Cross-section F          | 3.427233  | (5,27) | 0.0159 |
| Cross-section Chi-square | 17.691937 | 5      | 0.0034 |

**Source: EvIEWS 10**

The outcome of the Redundant Fixed Effects Test shows that the pooled regression model is not appropriate for evaluating the impact of Cost Volume Profit (CVP) analysis on commercial firms in Nigeria. The null hypothesis that cross sectional fixed effects are redundant was rejected since the Cross Section F Statistic (3.427233,  $p = 0.0159$ ) and the Cross Section Chi Square (17.691937,  $p = 0.0034$ ) both yielded  $p$  values below the 5 percent significance level ( $p < 0.05$ ). This suggests that there are important firm-specific variables that need to be taken into account, which makes the Fixed Effects Model (FEM) or the Random Effects Model (REM) more appropriate. The Hausman Test must be used in order to determine which model is best. The Fixed Effects Model (FEM), which implies that firm-specific differences are connected to the independent variables, is recommended when the Hausman Test  $p$  value is less than 0.05. On the other hand, if the Hausman Test  $p$  value exceeds 0.05, the Random Effects Model (REM) should be applied, implying that firm specific variations are not related to the explanatory variables. Hence, the next stage of the analysis is to conduct the Hausman Test to make a conclusive decision between FEM and REM for reliable estimation and interpretation of findings.

**Table 5: Hausman Test**

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

| Test Summary         | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.  |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 2.545787          | 3            | 0.0461 |

**Source: EvIEWS 10**

To determine whether the Fixed Effects Model (FEM) or the Random Effects Model (REM) offers a better fit for the investigation, the Hausman Test is used. A  $p$  value of 0.0461 ( $p < 0.05$ ) and a Chi Square statistic of 2.545787 disprove the null hypothesis that the Random Effects Model is appropriate. This result suggests that the Fixed Effects Model (FEM) is the best framework for investigating the relationship between business performance and Cost Volume Profit (CVP) analysis. To guarantee consistent and trustworthy outcomes, the Fixed Effects Model (FEM) should be the basis for all ensuing interpretations and conclusions.

### Inferential Statistics

**Table 6: Fixed Effect Model (FEM)**

Dependent Variable: ROA

Method: Panel Least Squares

Date: 02/20/25 Time: 15:01

Sample: 2018 2023

Periods included: 6

Cross-sections included: 6

Total panel (balanced) observations: 36

| Variable                              | Coefficient | Std. Error            | t-Statistic | Prob.    |
|---------------------------------------|-------------|-----------------------|-------------|----------|
| C                                     | 46.95388    | 24.25335              | 1.935975    | 0.0634   |
| COST                                  | 44.96336    | 48.19915              | 0.932866    | 0.3592   |
| SALES                                 | -0.101177   | 0.205249              | -0.492947   | 0.6260   |
| PRICE                                 | -0.233681   | 0.182237              | -1.282291   | 0.2106   |
| Effects Specification                 |             |                       |             |          |
| Cross-section fixed (dummy variables) |             |                       |             |          |
| R-squared                             | 0.476003    | Mean dependent var    |             | 5.630556 |
| Adjusted R-squared                    | 0.320744    | S.D. dependent var    |             | 4.097443 |
| S.E. of regression                    | 3.376989    | Akaike info criterion |             | 5.484164 |
| Sum squared resid                     | 307.9095    | Schwarz criterion     |             | 5.880044 |
| Log likelihood                        | -89.71495   | Hannan-Quinn criter.  |             | 5.622337 |
| F-statistic                           | 3.065871    | Durbin-Watson stat    |             | 2.090720 |
| Prob(F-statistic)                     | 0.013676    |                       |             |          |

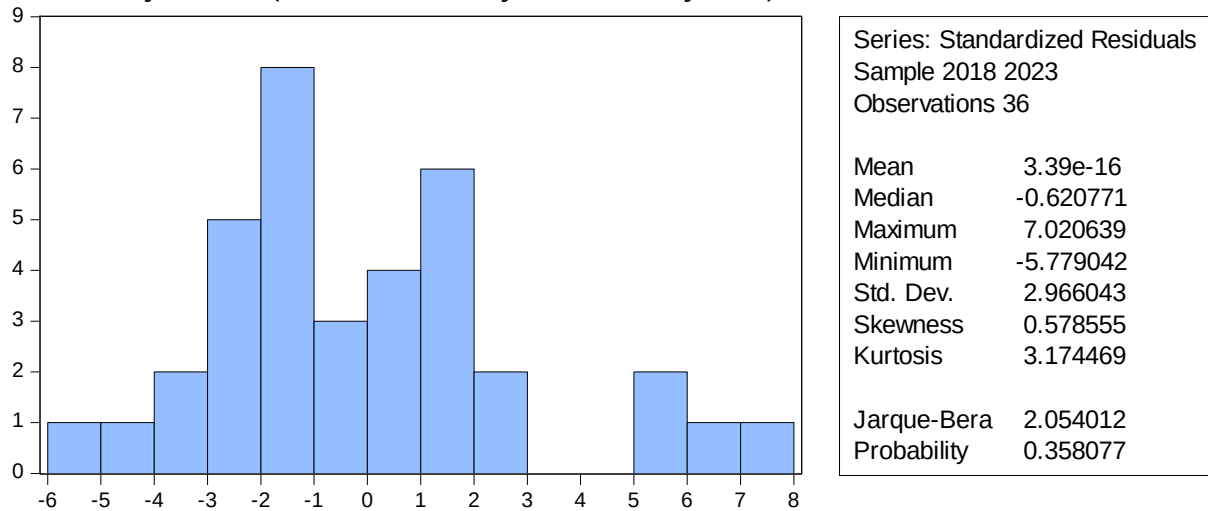
### Source: Eviews 10

The Fixed Effects Model (FEM) results indicate the relationship between Cost-Volume-Profit (CVP) analysis variables and Return on Assets (ROA) for commercial firms in Nigeria. The model's R-squared value of 0.4760 suggests that 47.6% of the variations in ROA are explained by cost structure (COST), sales volume (SALES), and pricing decisions (PRICE). However, the adjusted R-squared (0.3207) implies moderate explanatory power. The F-statistic (3.0659) and its p-value (0.0137) confirm that the model is statistically significant at the 5% level, meaning the independent variables collectively influence profitability.

When looking at individual coefficients, COST ( $\beta = 44.9634$ ,  $p = 0.3592$ ) has a positive but statistically negligible effects on ROA, indicating that changes in cost structure has no effect on profitability. Changes in sales volume do not significantly affect ROA, as seen by SALES's weakly negative but insignificant effect ( $\beta = -0.1012$ ,  $p = 0.6260$ ). Pricing choices may not be the only factor driving business profitability, as seen by PRICE's negative but negligible effect on profitability ( $\beta = -0.2337$ ,  $p = 0.2106$ ).

The Durbin-Watson statistic (2.0907) suggests no severe autocorrelation in the model, ensuring reliable estimates. Since none of the individual variables are statistically significant at the 5% level, further analysis, such as interaction effects or alternative profitability measures, may be necessary to uncover deeper insights. The study confirms that while CVP analysis influences firm performance, other external factors such as market conditions, competition, and economic policies may also play critical roles in determining profitability.

### Post Analysis Test (Model Reliability and Stability Test)



**Fig 1: Histogram Test of Normality**

With a p value of 0.3581 and a JarqueBera statistic of 2.054012, the Histogram Normality Test findings demonstrate that the residuals have a normal distribution since the p value is higher than the 0.05 cutoff. This confirms that the model meets the normalcy assumption, enhancing its stability and dependability in elucidating the connection between firm profitability and Cost Volume Profit (CVP) analysis.

### Table 7: Residual Cross-Section Test

Residual Cross-Section Dependence Test

Periods included: 6

Cross-sections included: 6

Total panel observations: 36

Cross-section effects were removed during estimation

| Test                     | Statistic | d.f. | Prob.  |
|--------------------------|-----------|------|--------|
| Breusch-Pagan LM         | 22.43259  | 15   | 0.0970 |
| Pesaran scaled LM        | 1.357000  |      | 0.1748 |
| Bias-corrected scaled LM | 0.757000  |      | 0.4490 |
| Pesaran CD               | -0.071028 |      | 0.9434 |

**Source: Eviews 10**

The Residual Cross Section Dependence Test is used to assess whether residuals are correlated across different cross sections. The outcome of the test reveals that all p values are above 0.05 (Breusch Pagan LM = 0.0970, Pesaran scaled LM = 0.1748, Bias corrected scaled LM = 0.4490, and Pesaran CD = 0.9434), which means the null hypothesis of no cross sectional dependence cannot be rejected. This demonstrates that the residuals remain independent across firms, confirming that the model is statistically sound and not affected by issues of cross sectional correlation.

**Table 8: Correlogram Test**

Date: 02/20/25 Time: 14:30

Sample: 2018 2023

Included observations: 30

| Autocorrelation | Partial Correlation | AC       | PAC    | Q-Stat | Prob  |
|-----------------|---------------------|----------|--------|--------|-------|
| .**  .          | .**  .              | 1 -0.260 | -0.260 | 2.2294 | 0.135 |
| .**  .          | ***  .              | 2 -0.283 | -0.375 | 4.9699 | 0.083 |
| .  **.          | .   .               | 3 0.243  | 0.055  | 7.0622 | 0.070 |
| .   .           | .   .               | 4 0.063  | 0.074  | 7.2108 | 0.125 |

**Source: Eviews 10**

The Correlogram Test is employed to evaluate autocorrelation in the residuals and to establish whether dependencies exist across different time periods. The findings indicate that all Q Statistics are associated with p values above 0.05, showing that autocorrelation is not statistically significant at any lag. This outcome implies that the residuals are free from serial correlation, thereby confirming that the model is statistically dependable and unaffected by autocorrelation problems, which in turn enhances the credibility of the regression outcomes.

### Test of Hypotheses

The study evaluates the relationship between Cost-Volume-Profit (CVP) analysis variables and profitability (ROA) of commercial firms in Nigeria using a Fixed Effects Model (FEM). The hypotheses are tested based on the p-values and t-statistics of each independent variable, determining whether the effects are statistically significant at the 5% significance level ( $p < 0.05$ ).

#### **H<sub>01</sub>: There is no significant impact of cost management strategies on the profitability of commercial firms in Nigeria.**

The cost structure (COST) variable has a coefficient of 44.9634, suggesting a positive relationship between cost management strategies and profitability. However, the p-value (0.3592) is greater than 0.05, and the t-statistic (0.9329) is below the critical value of  $\pm 1.96$ , indicating that COST does not have a statistically significant impact on ROA. This means that variations in cost management strategies do not significantly influence profitability within the observed period. Thus, we fail to reject the null hypothesis (H<sub>01</sub>) and conclude that cost management strategies do not significantly impact the profitability of commercial firms in Nigeria.

#### **H<sub>02</sub>: There is no significant relationship between sales volume and profitability in commercial firms in Nigeria.**

The sales volume (SALES) variable has a coefficient of -0.1012, indicating a negative relationship between sales volume and profitability. The p-value (0.6260) is much greater than 0.05, and the t-statistic (-0.4929) falls below the critical threshold, suggesting that changes in sales volume do not significantly affect profitability. This result implies that higher sales volume alone does not necessarily lead to increased profitability, possibly due to high operational costs or inefficient cost structures. As the relationship is statistically insignificant, we fail to reject the null hypothesis (H<sub>02</sub>) and conclude that sales volume does not have a significant impact on the profitability of commercial firms in Nigeria.

**H<sub>03</sub>: There is no significant effect of pricing decisions on the profitability of commercial firms in Nigeria.**

The pricing decisions (PRICE) variable has a coefficient of -0.2337, showing a negative relationship between pricing and profitability. The p-value (0.2106) is greater than 0.05, and the t-statistic (-1.2823) does not reach the significance threshold, indicating that pricing decisions do not significantly affect ROA. This result suggests that changes in pricing alone do not drive profitability, as other factors, such as cost efficiency and market demand, play crucial roles in financial performance. Since the effect is not statistically significant, we fail to reject the null hypothesis (H<sub>03</sub>) and conclude that pricing decisions do not have a significant effect on the profitability of commercial firms in Nigeria.

**Discussion**

The results of the Fixed Effects Model (FEM) provide valuable on the effect of Cost-Volume-Profit (CVP) analysis variables on profitability (ROA) of commercial firms in Nigeria. The coefficient values indicate the direction and magnitude of the effect that each independent variable (COST, SALES, and PRICE) has on firm profitability. While cost structure (COST) has a positive coefficient, both sales volume (SALES) and pricing decisions (PRICE) exhibit negative relationships with profitability. These findings have important implications for financial decision-making in Nigerian commercial firms and align with prior literature on CVP analysis.

**Cost Structure and Profitability**

The coefficient of COST (44.9634) suggests a positive relationship between cost management strategies and firm profitability, indicating that firms that effectively manage their cost structures tend to achieve higher profitability. This finding aligns with studies by Adebayo and Egbetunde (2023), which emphasize that efficient cost management leads to improved financial performance by reducing operational inefficiencies. However, the lack of statistical significance in the hypothesis test suggests that other factors, such as production efficiency, technological advancements, and external market conditions, may moderate this relationship. The implication for commercial firms is that simply optimizing cost structures may not be enough to enhance profitability unless combined with strategic cost-control measures and operational improvements (Afolabi, 2024).

**Sales Volume and Profitability**

The coefficient of SALES (-0.1012) indicates a negative relationship between sales volume and profitability, implying that an increase in sales volume does not necessarily translate to higher profitability. This contradicts conventional expectations but is supported by studies like Okonkwo and Dike (2022), which found that high sales volume without effective cost management may lead to profit erosion due to increased variable costs and inefficiencies in production and distribution. The finding suggests that Nigerian commercial firms may be experiencing diminishing returns on sales due to rising operational expenses, inflationary pressures, and price competition in the market. This highlights the need for firms to not only focus on increasing sales volume but also implement strategies that optimize production efficiency and cost control to ensure sustainable profitability (Obi & Nwachukwu, 2023).

**Pricing Decisions and Profitability**

The coefficient of PRICE (-0.2337) also indicates a negative relationship between pricing decisions and firm profitability, meaning that higher prices do not necessarily lead to increased profitability. This finding is consistent with Ogunleye and Adebisi (2023), who observed that over-reliance on pricing strategies without considering demand elasticity and

market competition could lead to reduced sales and lower profit margins. The implication for Nigerian commercial firms is that pricing strategies must be carefully aligned with market demand, consumer preferences, and competitor pricing to avoid adverse effects on revenue generation. Firms should adopt value-based pricing strategies that focus on delivering superior product quality and customer satisfaction rather than merely adjusting prices to boost short-term profitability (Bello & Hassan, 2024).

## **5.0 CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

The study concludes that Cost-Volume-Profit (CVP) analysis is an essential financial tool, but its impact on firm profitability is not direct or significant in isolation. While cost structure positively influences profitability, the results indicate that merely cutting costs or increasing sales volume may not always yield higher profits. Similarly, pricing decisions must be strategically managed, as higher prices do not necessarily result in better financial performance. The findings highlight that profitability in Nigerian commercial firms, particular manufacturing firms is influenced by a combination of operational efficiency, market dynamics, competition, and cost management strategies. In order to improve long-term sustainability and development, businesses must take a comprehensive strategy that incorporates CVP analysis with other strategic financial planning techniques.

### **Recommendations**

Based on the findings of the study, the following recommendations were proposed: Firms should adopt strategic cost control measures to optimize their cost structures, focusing on improving production processes, reducing waste, and integrating technology-driven mechanisms for cost management. These efforts should aim to minimize expenses without compromising product quality or customer satisfaction, which are crucial for long-term profitability. Additionally, rather than simply increasing sales volume, businesses should enhance operational efficiency through automation, supply chain optimization, and market expansion. By focusing on customer retention and value-added services, firms can boost revenue without significantly escalating operational costs. Furthermore, firms should consider adopting data-driven pricing strategies that take into account factors such as consumer demand, competitive positioning, and cost structures. Shifting from cost-plus pricing to value-based, dynamic, or segmented pricing models could help optimize revenue generation while mitigating the negative effects on profitability.

## REFERENCES

- Adebayo, T. K., & Egbetunde, T. (2023). Cost management and financial performance: Evidence from Nigerian manufacturing firms. *Future Business Journal*, 9(2), 112–130.
- Adebayo, T., & Olalekan, K. (2023). Commercial firms and economic development in emerging markets. *Journal of Business and Economic Studies*, 18(2), 112–129.
- Adeleke, A., Oladipo, T., & Olayemi, J. (2023). Market expansion strategies and firm performance: Evidence from Nigerian manufacturing SMEs. *Journal of African Business Studies*, 14(2), 112–130.
- Adeleke, O., & Ayeni, F. (2023). Value-based pricing and competitive advantage: Insights from emerging economies. *International Journal of Management and Economics*, 59(3), 45–59.
- Adewale, A. A., & Olorunfemi, S. O. (2021). The impact of economic instability on financial decision-making in Nigeria: An analysis of commercial firms. *Journal of Business and Economics*, 17(3), 215–230.
- Afolabi, A. R. (2024). Does companies' income tax and financial leverage affect profitability of quoted manufacturing companies in Nigeria? *Caleb International Journal of Business and Finance*, 7(2), 99–120.
- Agu, C. P., & Olisa, J. O. (2023). Evaluating cost-volume-profit analysis as a financial planning tool in Nigerian firms. *African Journal of Financial Management*, 18(3), 209–225.
- Ayoade, P. (2022). Financial planning and sustainability of commercial firms. *International Journal of Finance and Business*, 19(4), 225–239.
- Bello, M. T., & Hassan, Y. O. (2024). The impact of pricing strategies on consumer behavior and firm profitability in the Nigerian retail industry. *International Journal of Marketing Research and Strategy*, 12(1), 55–78.
- Brigham, E. F., & Ehrhardt, M. C. (2021). *Financial management: Theory & practice* (16th ed.). Cengage Learning.
- Central Bank of Nigeria. (2024). *Financial stability report*. [www.cbn.gov.ng](http://www.cbn.gov.ng)
- Chikezie, A. (2023). Cost-volume-profit analysis and strategic decision-making: A theoretical perspective. *International Journal of Accounting and Business Studies*, 22(4), 301–315.
- Chikezie, A. N. (2023). Theoretical applications of cost-volume-profit analysis: A review of literature. *Journal of Accounting and Finance*, 29(1), 142–155.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Dean, J. (1951). *Managerial Economics*. Prentice Hall.
- Deloitte. (2023). Cost-volume-profit analysis in Nigerian firms: Bridging the gap between theory and practice. *Deloitte Insights*. <https://www2.deloitte.com/ng/en/insights/cost-volume-profit-analysis.html>
- Deloitte. (2023). Financial management strategies for commercial firms in emerging economies. *Deloitte Insights Report*. Retrieved from <https://www2.deloitte.com>
- Drucker, P. (2022). *Managing for results: Economic tasks and risk-taking decisions*. HarperCollins.
- Drury, C. (2021). *Management and cost accounting* (11th ed.). Cengage Learning.
- Eze, P., & Nwaogwugwu, I. (2023). The role of financial analysis tools in improving profitability: A case study of Nigerian enterprises. *Journal of Financial and Business Studies*, 20(1), 55–73.

- Ezima, N., Amaefula, A., Anyaegbunam, H. N., & Nwankwo, P. I. (2024). Effect of cost-volume-profit analysis on profit maximization in Nigerian manufacturing firms. *Journal of Accounting and Economic Research*, 12(4), 45–70.
- Garrison, R. H., Noreen, E. W., & Brewer, P. C. (2022). *Managerial accounting* (18th ed.). McGraw-Hill.
- Gbolahan, O., & Kazeem, T. (2022). The role of financial analysis in strategic planning for Nigerian commercial firms. *Journal of Management Studies*, 17(2), 45–61.
- Horngren, C. T., Datar, S. M., & Rajan, M. V. (2021). *Cost accounting: A managerial emphasis* (17th ed.). Pearson Education.
- Kotler, P., & Keller, K. L. (2022). *Marketing management* (16th ed.). Pearson Education.
- National Bureau of Statistics. (2024). *Nigeria's business sector performance*. [www.nbs.gov.ng](http://www.nbs.gov.ng)
- Nigerian Stock Exchange. (2024). *Annual report of listed companies*. [www.nse.ng](http://www.nse.ng)
- Njobil, E. M., Mbotor, E. D., & Ito, A. N. (2025). Effect of cost structures on profitability in the Nigerian oil and gas industry. *Journal of Management Science*, 11(1), 132–150.
- Obi, J. O., & Nwachukwu, T. E. (2023). Sales growth and cost control as determinants of financial performance in Nigerian firms. *Journal of Corporate Finance and Economics*, 11(4), 215–234.
- Ogunleye, A. R., & Adebisi, S. K. (2023). Pricing strategies and firm profitability: Evidence from Nigeria's FMCG sector. *African Journal of Business and Economic Policy*, 15(3), 145–167.
- Okafor, C., & Eze, V. (2022). Inflation, exchange rate volatility, and pricing decisions in Nigeria's manufacturing sector. *Nigerian Journal of Economic Policy*, 29(1), 67–85.
- Okafor, N. P., & Ogbonna, I. D. (2022). Cost management strategies and profitability in Nigerian commercial firms. *Nigerian Journal of Accounting*, 44(1), 11–26.
- Okonkwo, C. U., & Dike, F. N. (2022). The impact of sales volume on the profitability of consumer goods companies in Nigeria. *Journal of Business and Financial Studies*, 10(2), 187–205.
- Okonkwo, J. (2021). The role of commercial firms in Nigeria's economic growth. *African Journal of Economics*, 16(3), 98–115.
- Okoye, L. U., Evbuomwan, G. O., & Modebe, N. J. (2022). Cost management and profitability of listed firms in Nigeria: A panel analysis. *International Journal of Business and Finance Research*, 16(1), 91–104.
- Oluwatoyin, J. B., & Akinola, A. (2023). Economic policies and their effect on the operational success of Nigerian commercial firms. *Nigerian Business and Policy Review*, 16(1), 90–102.
- Uduakobong, U. L., & Oluka, K. U. (2025). Cost-volume-profit analysis and competitive advantage in Nigerian retail firms. *American Journal of Economics and Business Research*, 13(2), 210–230.
- Uwalomwa, U., Olamide, O., & Francis, I. (2021). Cost management practices and financial sustainability of firms in Sub-Saharan Africa. *African Journal of Accounting, Auditing and Finance*, 10(4), 351–369.