

## EMPLOYEE COST AND FINANCIAL PERFORMANCE OF LISTED OIL AND GAS COMPANIES IN NIGERIA

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### ABSTRACT

*This study investigated the relationship between employee cost and financial performance of listed oil and gas companies in Nigeria, guided by three specific objectives, three research questions, and three hypotheses. Adopting an ex-post facto design, the research uses historical data from annual reports and financial statements. The population comprises nine (9) companies listed on the Nigerian Exchange Group (NGX) as of December 31, 2023, with a purposive sample of seven (7) firms selected based on criteria such as the availability of up-to-date financial reports for the period 2014-2023. Secondary data were analyzed using descriptive statistics, Pearson's Product Moment Correlation Coefficient (PPMC), and moderated multiple regression (MMR) analysis. The findings indicated a significant positive relationship between employee cost and financial performance, with firm size acting as a moderating variable. The study concluded that strategic investment in employee benefits enhances financial performance. The study further suggested that Companies should optimize retirement benefits to balance profitability and asset efficiency; Implement cost-control strategies for health insurance benefits to minimize adverse impacts on profitability.*

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## 1.0 INTRODUCTION

Effective financial management in oil and gas companies involves closely monitoring key performance indicators such as Profit After Tax (PAT). These metrics provide insights into how well a company utilizes its resources and assets to generate profits. Strategic employee benefit programs can play a crucial role in enhancing these financial indicators by improving employee satisfaction, retention, and overall productivity. As organizations invest in comprehensive benefit schemes, they often see a direct impact on their financial performance, reflecting in better PAT and ROA. Studies by Eke et al. (2024), Ogbuanya and Nwokorie (2021), and Nwokorie and Okoye (2022) highlight the positive correlation between employee benefits and financial success. Likewise, research by Agbaeze et al. (2020) and Ogujiuba et al. (2019) supports the notion that well-implemented employee benefits are integral to achieving sustainable growth and enhancing organizational performance.

Employee cost play a crucial role in the financial performance and overall success of oil and gas companies in Nigeria. These benefits encompass various compensation and non-compensation perks provided to employees beyond their regular salaries, aiming to attract, retain, and motivate talent within the industry. As highlighted by Okoye and Agbo (2020), employee benefits in the Nigerian oil and gas sector extend beyond traditional offerings to include health insurance, retirement plans, stock options, performance bonuses, housing allowances, and educational assistance. These benefits are instrumental in enhancing employee satisfaction, engagement, and productivity, consequently contributing to improved organizational performance and financial outcomes.

Employee retirement costs are integral to the financial performance and long-term sustainability of oil and gas companies in Nigeria, serving as a crucial component of their human resource management strategy. As highlighted by Ogunleye and Adebisi (2021), these benefits include pension plans, 401(k) contributions, and other retirement savings programs aimed at providing financial security for employees after they leave the workforce.

In Nigeria's competitive labor market, offering attractive retirement benefits is essential for attracting and retaining top talent, as emphasized by Eze and Emecheta (2020). Companies that provide robust retirement benefits not only demonstrate their commitment to employee well-being but also bolster their employer brand and reputation, thereby enhancing their ability to attract skilled professionals. Moreover, as noted by Nwokorie and Okoye (2022), effective retirement benefit programs contribute to workforce stability, reducing turnover rates and associated recruitment and training costs. By investing in employee retirement benefits, oil and gas companies can foster a loyal and motivated workforce, ultimately driving productivity and contributing to their overall financial performance and competitive advantage in the Nigerian market.

Employee training and welfare programs are instrumental in enhancing the performance and sustainability of oil and gas companies in Nigeria, representing a strategic investment in human capital development. As highlighted by Akintoye and Ojo (2021), these programs encompass a wide range of initiatives aimed at equipping employees with the necessary skills and knowledge to excel in their roles, including technical training, leadership development, and health and safety training. By investing in employee training, oil and gas companies can improve operational efficiency, reduce errors, and enhance overall productivity, as emphasized by Adebayo and Adeniyi (2020).

The moderating role of firm size, measured by total assets and total number of employees, on the relationship between employee benefits and financial performance is a crucial aspect in the context of Nigeria's oil and gas industry. Research by Okeke and Nwachukwu (2021) suggests that larger firms with substantial assets and a

greater number of employees may have the resources to offer more comprehensive and attractive employee benefits packages, including health insurance, retirement plans, and training programs. As such, these firms are likely to experience stronger employee satisfaction, engagement, and retention, leading to improved organizational performance and financial outcomes. On the other hand, smaller firms with limited resources may face challenges in providing competitive employee benefits, which could impact their ability to attract and retain top talent and ultimately affect their financial performance.

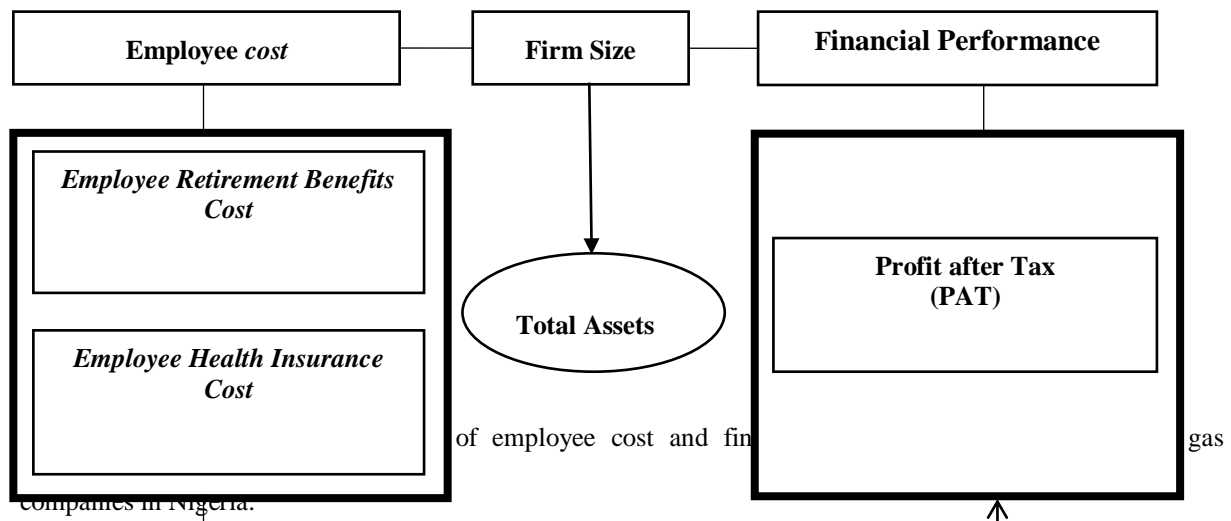
**Statement of the problem**

The oil and gas industry's intense competition for skilled talent necessitates attractive employee benefit packages, as noted by Adekoya and Adeoye (2021), yet empirical evidence on the impact of these benefits on recruitment, retention, and overall performance remains sparse. Additionally, the financial strain on these companies due to fluctuating oil prices, regulatory uncertainties, and operational challenges, as highlighted by Akinbola and Adeleke (2020), raises concerns about the sustainability and cost-effectiveness of comprehensive benefit programs. The effectiveness of various employee benefits, such as health insurance and retirement plans, in enhancing workforce productivity and organizational performance is still unclear, and the moderating effects of firm size and industry dynamics on this relationship require further investigation.

Existing research shows a lack of consensus on the precise impact of employee benefits on financial performance within the Nigerian oil and gas sector. While studies like those by Ogbuanya and Nwokorie (2021) and Okolie and Akpan (2020) suggest a positive influence of comprehensive benefit packages on employee productivity and organizational performance, others, such as Akinbola and Adeleke (2020), highlight the potential financial burdens. To address these gaps, this study employs a comprehensive research approach, including longitudinal data analysis and consideration of firm-specific characteristics. By using advanced statistical techniques such as Moderated Multiple Regression analysis and secondary data from financial reports of Nigerian oil and gas companies, the study provides empirical evidence supporting the positive impact of employee cost on financial performance, thereby offering practical insights for industry managers and policymakers.

**Conceptual Framework**

Conceptual framework is a model of presentation where the researcher conceptualizes or represents the relationship between variables diagrammatically.



**Source:** Ogbuanya and Nwokorie (2021), Okolie and Akpan (2020), Okeke and Nwachukwu (2021).

### **Aim/Objective of the study**

The aim of this study was to investigate the relationship between employee cost and financial performance of listed oil and gas companies in Nigeria. However, specifically, the study sought to:

1. Investigate the relationship between employee retirement benefits *cost* and profit after tax of listed oil and gas companies in Nigeria.
2. Investigate the relationship between employee health insurance benefits *cost* and profit after tax of listed oil and gas companies in Nigeria.
3. Determine how firm size moderates the relationship between employee cost and profit after tax of listed oil and gas companies in Nigeria.

### **Research Questions**

The following research question was answered;

1. Does employee retirement benefits *cost* relate to profit after tax of listed oil and gas companies in Nigeria?
2. What is the effect of employee health insurance benefits *cost* on profit after tax of listed oil and gas companies in Nigeria?
3. Does firm size moderate the effect of employee costs on profit after tax of listed oil and gas companies in Nigeria?

### **Research Hypotheses**

The study tested the following research null hypotheses;

Ho1: There is no significant relationship between employee retirement benefits *cost* and profit after tax of listed oil and gas companies in Nigeria.

Ho2: There is no significant relationship between employee health insurance benefits *cost* and profit after tax of listed oil and gas companies in Nigeria.

Ho3: Firm size does not significantly moderate the relationship between employee cost and profit after tax of listed oil and gas companies in Nigeria.

### **1.7 Significance of the study**

The significance of the study extends to various stakeholders involved in the oil and gas industry in Nigeria:

**Government and Regulatory Bodies:** Understanding the relationship between employee benefits and financial performance in oil and gas companies can provide insights for policymakers and regulatory bodies. They can use this information to develop policies and regulations that promote employee welfare while ensuring the financial sustainability and competitiveness of the industry.

**Oil and Gas Companies:** For oil and gas companies, the study offers valuable insights into the impact of employee cost on financial performance. By understanding how employee cost such as retirement benefits, and

health insurance influence profitability and asset productivity, companies can make informed decisions about their human resource management strategies. This includes optimizing benefit programs to attract and retain talent while also enhancing financial performance.

**Investors and Shareholders:** Investors and shareholders are interested in the financial health and performance of oil and gas companies. This study provides insights into the factors that contribute to financial performance, including the relationship between employee cost and profitability. Investors can use this information to assess the long-term sustainability and profitability prospects of oil and gas companies, thereby informing their investment decisions.

**Employees and Labor Unions:** Employees and labor unions play a crucial role in advocating for fair and competitive employee benefit packages. This study helps employees and labor unions understand the impact of various benefit programs on the financial performance of oil and gas companies. It provides them with evidence to negotiate for better benefit packages that not only enhance employee well-being but also contribute positively to the company's financial performance.

**Industry Analysts and Researchers:** Industry analysts and researchers can leverage the findings of this study to deepen their understanding of the dynamics between employee cost and financial performance in the oil and gas sector. This can lead to further research and analysis aimed at uncovering additional insights and trends, ultimately contributing to the body of knowledge in the field of human resource management and organizational performance in the oil and gas industry.

### **Scope of the Study**

The scope of this research work covers employee cost and financial performance of listed oil and gas companies in Nigeria. However, the scope of this study is delimited by several factors:

- i. Geographical Scope: The study focuses on listed oil and gas companies operating in Nigeria, specifically those involved in exploration, production, refining, and distribution activities within the oil and gas sector.
- ii. Content Scope: Theoretical areas covered in this study include the predictor variables (employee retirement benefits cost, employee health insurance benefits cost), criterion variables (profit after tax), and the moderating variable (firm size, measured by log of total assets).
- iii. Unit (Level) of Analysis: This study adopts an organizational level of analysis, as data were collected from the respective listed oil and gas companies in Nigeria. The annual financial reports of these companies, obtained from sources such as the Nigerian Exchange Group or company disclosures, serve as the major data source for analysis.

### **REVIEW OF RELATED LITERATURE**

## **Conceptual Review**

### **Employee cost**

Employee cost involve a wide range of non-wage compensations provided by employers to their employees, aiming to enhance job satisfaction, attract and retain talent, and promote employee well-being. These benefits go beyond the traditional salary or hourly wage and often include provisions such as retirement plans, health insurance, paid time off, bonuses, and other perks. In today's competitive labor market, offering attractive employee benefits has become essential for employers to remain competitive and maintain a motivated and productive workforce.

One aspect of employee benefits is retirement benefits, which constitute financial provisions made by employers to support employees upon retirement. Olufemi et al. (2020) highlighted the importance of retirement benefits in their study on the impact of retirement benefits on employee retention in the Nigerian oil and gas industry. They emphasize that competitive retirement packages can significantly influence employee loyalty and retention rates, as employees are more likely to stay with companies that offer attractive retirement benefits.

Employee benefits play a crucial role in shaping the employer-employee relationship and contributing to organizational success. By offering competitive retirement benefits, investing in staff training and welfare programs, and providing comprehensive health insurance coverage, employers can attract, retain, and motivate top talent while fostering a positive work environment. However, it is essential for organizations to carefully manage the costs and benefits of their employee benefit programs to ensure alignment with overall financial objectives and sustainable growth.

### **Employee Retirement Benefits cost**

Employee retirement benefits constitute a crucial aspect of employee compensation packages, providing financial security and stability to employees upon retirement. These benefits typically include pension plans, retirement savings accounts, employer contributions to retirement funds, and other forms of financial assistance aimed at supporting employees during their retirement years. In today's dynamic workforce, offering competitive retirement benefits has become essential for employers to attract and retain top talent and ensure long-term employee loyalty and satisfaction. Research by Olowookere and Ojo (2021) delves into the strategic management of employee retirement benefits and its impact on organizational performance in selected oil and gas companies in Nigeria. Their study highlights the importance of effectively managing retirement benefit programs to enhance employee satisfaction and retention.

### **Employee Health Insurance Benefits cost**

Employee health insurance benefits play a crucial role in the overall well-being and productivity of employees within organizations. Health insurance benefits encompass a range of medical services and coverage provided by employers to their employees, aimed at safeguarding their health and providing financial assistance in case of medical emergencies or health-related expenses (Adebisi & Adekunle, 2023). These benefits typically include coverage for hospitalization, medical consultations, diagnostic tests, prescription medications, and sometimes dental and vision care. The provision of comprehensive health insurance benefits is increasingly recognized as an essential component of employee compensation packages, contributing to employee satisfaction, retention, and overall organizational performance.

### **Financial Performance**

Financial performance is a multifaceted concept that encompasses various aspects of a company's fiscal health and operational efficiency. It serves as a critical measure of the organization's ability to generate profits, manage resources effectively, and create value for its stakeholders. In the context of the studies under review, financial performance refers to the evaluation of oil and gas companies' profitability, liquidity, solvency, efficiency, and market valuation in the Nigerian context.

Adekunle and Adebayo (2023) conducted a study on the relationship between financial performance and market valuation of listed companies in Nigeria. This research aimed to understand how financial metrics influence investors' perceptions and market valuations of companies in the Nigerian stock market. By examining metrics such as price-to-earnings ratios, price-to-book ratios, and dividend yields, the study provides insights into how financial performance impacts shareholder value and market dynamics.

### **Profit After Tax**

Profit After Tax (PAT) is a key financial metric used to assess the net income generated by a company after accounting for all expenses, taxes, and other costs. It represents the amount of money a company earns from its operations after deducting taxes owed to the government and any other mandatory deductions. PAT is a fundamental indicator of a company's financial performance and is closely monitored by investors, analysts, and stakeholders to evaluate the profitability and sustainability of the business.

### **Moderating role of Firm Size**

The moderating role of firm size on the relationship between employee cost and financial performance of oil and gas companies is a topic of significant interest in both academic research and practical business management. This relationship is crucial to understand as it sheds light on how the size of an organization influences the effectiveness of employee welfare initiatives in driving financial outcomes. Firm size, typically measured by metrics such as total assets, revenue, or market capitalization, can significantly impact the magnitude and direction of the relationship between employee benefits and financial performance.

Several recent studies have explored this phenomenon and provided valuable insights into the dynamics at play. For example, Akande and Ojo (2023) investigated the moderating effect of firm size on the relationship between employee benefits and financial performance in Nigerian oil and gas companies. Their findings revealed that larger firms tend to derive greater financial benefits from investing in employee welfare programs compared to smaller firms. This suggests that firm size plays a critical role in shaping the impact of employee benefits on financial performance.

Understanding the moderating role of firm size requires a nuanced analysis of how organizational characteristics interact with employee welfare initiatives to influence financial outcomes. Larger companies often have more resources and capabilities to implement comprehensive employee benefits programs, including competitive compensation packages, health insurance coverage, and training opportunities. As a result, they may experience more significant improvements in financial performance when investing in employee well-being compared to smaller firms with limited resources.

## **2.2 Theoretical Review**

The study primarily anchors on Human Capital Theory due to its focus on understanding how investments in employee benefits, such as training and welfare, contribute to the development of valuable human capital within oil and gas companies in Nigeria.

### **Human Capital Theory**

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Human Capital Theory, proposed by Gary Becker and Theodore Schultz in the 1960s, posits that investments in education, training, and employee welfare enhance productivity and economic growth. Applied to the oil and gas sector in Nigeria, this theory suggests that companies investing in employee benefits such as training, health insurance, and retirement plans can achieve higher productivity and financial performance. Empirical studies, including those by Blomstrom and Wolff (2017), support the positive impact of human capital investments on organizational success. By fostering skill development, ensuring employee well-being, and creating a supportive organizational culture, oil and gas companies can attract top talent, improve job satisfaction, and gain a competitive edge. Additionally, such investments contribute to broader socio-economic development, including poverty reduction and improved living standards, thereby reinforcing the link between organizational success and societal well-being.

### **Empirical Review**

**Okoye and Agbo (2020)**, employed a survey method to assess the relationship between employee benefits and job satisfaction among Nigerian oil and gas industry employees. The results revealed a significant positive correlation, indicating that better employee benefits lead to higher job satisfaction. The authors recommended that oil and gas companies strategically design and implement comprehensive employee benefit programs to enhance job satisfaction and improve employee retention.

**Ogunleye and Adebisi (2021)**, using mixed-methods study, including surveys, interviews, and financial analysis, investigated the link between employee retirement benefits and organizational performance. It identified a positive association, showing that better retirement packages are linked to higher organizational performance. The authors suggested that oil and gas companies prioritize investment in retirement benefits to boost overall performance and competitiveness.

**Olowookere and Ojo (2021)**, used interviews and financial data analysis to explore the impact of strategic employee benefits management on organizational performance. The findings indicated a positive relationship, with well-managed benefit programs enhancing performance. The authors recommended that oil and gas companies adopt strategic management practices for employee benefits to achieve sustainable growth and improved performance.

**Nwokorie and Okoye (2022)**, conducted surveys and financial data analysis, this research explored the relationship between retirement benefits and workforce stability. It found a positive correlation, suggesting that better retirement packages lead to lower turnover rates and greater stability. The study recommended enhancing retirement benefits to improve workforce stability and organizational performance.

**Akintoye and Ojo (2021)** employed surveys and interviews to assess employee training and development programs in the Nigerian oil and gas industry. The findings showed that robust training programs lead to higher employee satisfaction and performance. The authors emphasized the importance of investing in comprehensive training programs to enhance organizational effectiveness and competitiveness.

**Adebayo and Adeniyi (2020)** using surveys and financial data analysis, this study examined the effect of employee training on organizational performance. The results indicated a positive relationship, with training contributing to higher productivity and profitability. The authors recommended allocating resources to effective training programs to boost organizational performance and achieve sustainable growth.

**Osibanjo and Adewale (2022)**, used surveys and financial data analysis to investigate the impact of employee welfare programs on organizational performance. The study found a positive correlation, indicating that better

welfare programs enhance performance. The authors recommended prioritizing investments in welfare programs to improve overall organizational performance and competitiveness.

**Okeke and Nwachukwu (2021)**,utilized surveys and financial analysis to explore the impact of employee benefits on financial performance, moderated by firm size. It found that employee benefits positively impact financial performance, with larger firms benefiting more. The authors recommended aligning benefit programs with firm size to maximize financial outcomes.

**Akpan and Iwu (2020)** employed surveys and statistical analysis, this research examined how firm size moderates the relationship between employee benefits and organizational performance. The study found that larger firms experience greater benefits from employee benefits. The authors suggested tailoring benefit programs to firm size to optimize performance improvements.

**Adekoya and Adeoye (2021)**used surveys and interviews to assess the relationship between employee benefits management and talent retention. It found a positive correlation, with effective benefits management improving talent retention. The authors emphasized investing in effective benefits management to retain top talent and sustain organizational performance.

### **Gap in literature**

Previous studies predominantly utilized qualitative or mixed methods—such as surveys, interviews, and financial analysis—to examine the relationship between employee benefits and variables like job satisfaction, retention, and organizational performance in the Nigerian oil and gas industry. However, many of these studies focused on subjective measures, lacked longitudinal data, and did not integrate firm-specific financial performance metrics with employee cost components in a robust, econometric framework. Additionally, the moderating role of firm size was only briefly acknowledged without rigorous empirical modeling. The present study fills these gaps by adopting an ex-post facto research design using objective, historical financial data over a ten-year period (2014–2023), applying Pearson’s correlation and moderated multiple regression (MMR) to establish a statistically grounded relationship between employee costs and financial performance. It uniquely incorporates firm size as a moderating variable, offering a more comprehensive and data-driven understanding of how employee cost influences financial performance across different firm sizes in the Nigerian oil and gas sector.

## **METHODOLOGY**

The research adopts an ex-post facto design, utilizing historical data from annual reports and financial statements. The study's population included nine oil and gas companies listed on the Nigerian Exchange Group (NGX) as of December 31, 2023, with a purposive sample of seven companies selected based on criteria such as the availability of up-to-date financial reports (2014-2023). Secondary data from these reports were analyzed using descriptive statistics, Pearson’s Product Moment Correlation Coefficient (PPMC), and moderated multiple regression (MMR) analysis. The

MMR analysis, conducted with SPSS25, assessed the influence of firm size on the relationship between employee cost and financial performance.

$$\text{Model 1: } PAT = \beta_0 + \beta_1 ERBC_{bt} + \beta_3 EHIBC_{bt} + \beta_4 FS_{bt} + \beta_5(ERBC_{bt} \times FS_{bt}) + \beta_6(EHIBC_{bt} \times FS_{bt}) + U_t \dots\dots\dots (i)$$

The a priori expectation is  $\beta_1, \beta_2, \beta_3, \beta_4 > 0$ .

Where:

ERB= Employee retirement benefits

EHIB= Employee Health Insurance benefits

PAT = Profit after tax

FS = Firm size

$\beta_0$  &  $a_0$  = Intercept of the relationship/the constant term

$\beta_1$ - $\beta_4, a_0$ - $a_1$  = Coefficients of the predictor variables (Measures of the slope)

$\mu$  = Stochastic variable (disturbance)/ Error term of the equation.

t = Period of time (2014-2023)

**DATA ANALYSIS AND DISCUSSION**

**Table 1 Descriptive Statistics**

|                    | N         | Minimum   | Maximum   | Mean      | Std. Deviation | Kurtosis  |            |
|--------------------|-----------|-----------|-----------|-----------|----------------|-----------|------------|
|                    | Statistic | Statistic | Statistic | Statistic | Statistic      | Statistic | Std. Error |
| ERBC               | 70        | 3.10      | 5.87      | 5.0711    | .62306         | .611      | .570       |
| EHIBC              | 70        | 2.54      | 5.73      | 4.5323    | .83121         | -.479     | .613       |
| PAT                | 70        | 2.26      | 7.92      | 6.0200    | 1.04490        | 1.998     | .650       |
| FS                 | 70        | 4.17      | 8.87      | 7.3035    | .92709         | 1.093     | .574       |
| Valid N (listwise) | 70        |           |           |           |                |           |            |

**Source: SPSS25 Statistical Package**

The descriptive statistics for the variables in the study are summarized as follows. For Employee Retirement Benefits Cost (ERBC), ranging from ₦3.10 billion to ₦5.87 billion, the mean is ₦5.071 billion with a standard deviation of ₦0.623 billion. Employee Health Insurance Benefits Cost (EHIBC) spans from ₦2.54 billion to ₦5.73 billion, with a mean of ₦4.532 billion and a standard deviation of ₦0.831 billion. Profit After Tax (PAT) ranges from ₦2.26 billion to ₦7.92 billion, showing a mean of ₦6.020 billion and a standard deviation of ₦1.045 billion. Firm Size (FS) ranges from ₦4.17 billion to ₦8.87 billion, having a mean of ₦7.304 billion and a standard deviation of ₦0.927 billion. The kurtosis values indicate varying degrees of distribution shape, with some variables showing significant departures from normality.

**Test of hypothesis 1**

H01: There is no significant relationship between employee retirement benefits *cost* and profit after tax of listed oil and gas companies in Nigeria.

**Table 2 Correlation on the strength of relationship between employee retirement benefits cost and PAT**

|      |                     | ERBC   | PAT    |
|------|---------------------|--------|--------|
| ERBC | Pearson Correlation | 1      | .446** |
|      | Sig. (2-tailed)     |        | .001   |
|      | N                   | 70     | 70     |
| PAT  | Pearson Correlation | .446** | 1      |
|      | Sig. (2-tailed)     | .001   |        |
|      | N                   | 70     | 70     |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis between Employee Retirement Benefits Cost (ERBC) and Profit After Tax (PAT) reveals a Pearson correlation coefficient of 0.446, which is statistically significant at the 0.01 level ( $p = 0.001$ ). This positive correlation indicates a moderate to strong relationship between ERBC and PAT, suggesting that increases in retirement benefits are associated with higher profits in listed oil and gas companies in Nigeria. Given this significant correlation, the null hypothesis ( $H_0$ ) that there is no significant relationship between ERBC and PAT is rejected. This finding implies that employee retirement benefits cost positively impacts the profitability of these companies, highlighting the importance of investing in retirement benefits as a strategy to enhance financial performance.

### Test of hypothesis 3

$H_0$ : There is no significant relationship between employee health insurance benefits cost and profit after tax of listed oil and gas companies in Nigeria.

**Table 3 Correlation on the strength of relationship between employee health insurance benefits cost and profit after tax**

|       |                     | EHIBC | PAT   |
|-------|---------------------|-------|-------|
| EHIBC | Pearson Correlation | 1     | -.930 |
|       | Sig. (2-tailed)     |       | .014  |
|       | N                   | 70    | 70    |
| PAT   | Pearson Correlation | -.930 | 1     |
|       | Sig. (2-tailed)     | .014  |       |
|       | N                   | 70    | 70    |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis between Employee Health Insurance Benefits Cost (EHIBC) and Profit After Tax (PAT) shows a Pearson correlation coefficient of -0.930, with a significance level of 0.014. This indicates a strong negative relationship between EHIBC and PAT, and the result is statistically significant at the 0.01 level. Therefore, the null hypothesis ( $H_0$ ), which asserts that there is no significant relationship between employee health insurance benefits cost and profit after tax, is rejected. The significant negative correlation suggests that higher costs associated with employee health insurance benefits are linked to lower profit after tax for listed oil

and gas companies in Nigeria. This result implies that increased spending on health insurance benefits may be associated with reduced profitability, potentially due to the high costs impacting the companies' financial performance.

**Test of hypothesis 4**

Ho5: Firm size does not significantly moderate the relationship between employee cost and profit after tax of listed oil and gas companies in Nigeria.

**Table 4: Estimation of Firm size on the relationship between employee cost and profit after tax**

| <b>Model Summary</b> |                   |          |                   |   |                            |  |
|----------------------|-------------------|----------|-------------------|---|----------------------------|--|
| Model                | R                 | R Square | Adjusted R Square | R | Std. Error of the Estimate |  |
| 1                    | .390 <sup>a</sup> | .152     | .105              |   | 1.05635                    |  |
| 2                    | .623 <sup>b</sup> | .388     | .336              |   | .90992                     |  |

a. Predictors: (Constant), Zscore(EHIBC), Zscore(ERBC)  
 b. Predictors: (Constant), Zscore(EHIBC), Zscore(ERBC), INT

| <b>Coefficients<sup>a</sup></b> |               |                             |            |                           |        |      |
|---------------------------------|---------------|-----------------------------|------------|---------------------------|--------|------|
| Model                           |               | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|                                 |               | B                           | Std. Error | Beta                      |        |      |
| 1                               | (Constant)    | 6.167                       | .174       |                           | 35.464 | .000 |
|                                 | Zscore(ERBC)  | .581                        | .249       | .462                      | 2.328  | .026 |
|                                 | Zscore(EHIBC) | -.153                       | .221       | -.137                     | -.692  | .493 |
| 2                               | (Constant)    | 5.914                       | .165       |                           | 35.885 | .000 |
|                                 | Zscore(ERBC)  | .220                        | .236       | .175                      | .930   | .359 |
|                                 | Zscore(EHIBC) | .374                        | .238       | .336                      | 1.570  | .125 |
|                                 | INT           | .444                        | .121       | .609                      | 3.677  | .001 |

a. Dependent Variable: PAT

The results indicate that firm size significantly moderates the relationship between employee costs and profit after tax (PAT) of listed oil and gas companies in Nigeria. Model 1, without moderation, explains 15.2% of the variance in PAT, with Zscore(ERBC) showing a significant positive effect (B = 0.581, p = 0.026), while Zscore(EHIBC) is not significant. However, with the inclusion of the interaction term (INT) in Model 2, the explanatory power increases to 38.8%, and the interaction term significantly influences PAT (B = 0.444, p = 0.001). This rejects the null hypothesis (Ho5) and confirms that firm size enhances the impact of employee costs on profitability, suggesting that larger firms better utilize employee-related investments to drive financial performance.

**Discussion of findings**

**1. Employee Retirement Benefits Cost (ERBC) and Profit After Tax (PAT)**

The analysis revealed a significant positive relationship between employee retirement benefits cost (ERBC) and profit after tax (PAT), suggesting that enhanced retirement benefits contribute positively to profitability. This finding aligns with Okoye and Agbo (2020), who demonstrated that better employee benefits improve job satisfaction, which can positively impact financial performance. The positive correlation supports the notion that investing in retirement benefits can be beneficial for organizational profitability by enhancing employee satisfaction and retention.

**2. Employee Health Insurance Benefits Cost (EHIBC) and Profit After Tax (PAT)**

The analysis found a significant negative relationship between employee health insurance benefits cost (EHIBC) and profit after tax (PAT), suggesting that higher health insurance costs are associated with reduced profitability. This result is at odds with Eze and Emecheta (2020) and Nwokocha and Uzor (2022), who found that health insurance positively impacts employee retention and financial well-being. The negative correlation indicates that while health insurance benefits are crucial for employee satisfaction, they may pose a significant cost challenge affecting profitability.

### **3. Firm Size as a Moderator of the Relationship Between Employee Benefits and Profit After Tax (PAT)**

Firm size significantly moderated the relationship between employee benefits and profit after tax (PAT), with a notable increase in explanatory power ( $R^2$ ) and a significant F change. This result supports Okeke and Nwachukwu (2021) and Akpan and Iwu (2020), who found that firm size influences how employee benefits impact financial performance. The moderation effect indicates that larger firms benefit more from employee programs, reinforcing the importance of aligning benefit strategies with firm size to maximize financial outcomes.

## **CONCLUSION AND RECOMMENDATIONS**

This study investigated the relationship between employee cost and financial performance in listed oil and gas companies in Nigeria. The study employed an ex-post facto design, utilizing historical data from annual reports and financial statements. Secondary data were analyzed using descriptive statistics, Pearson's Product Moment Correlation Coefficient (PPMC), and moderated multiple regression (MMR) analysis. The findings indicated a significant positive impact of employee benefits on financial performance, with firm size acting as a moderating variable. The study concluded that strategic investment in employee benefits enhances financial performance. The study further suggested that Companies should;

1. Optimize retirement benefits to balance profitability and asset efficiency.
2. Implement cost-control strategies for health insurance benefits to minimize adverse impacts on profitability.
3. Larger firms should capitalize on their scale to maximize returns from employee-related investments.
4. Prioritize initiatives that directly link employee benefits costs to profit enhancement.
5. Adopt comprehensive financial planning to mitigate the negative impact of employee costs on asset efficiency.

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## APPENDICES

**Table 3.1 Population Showing Listed Oil and Gas companies in Nigeria**

| Company           | Ticker     | Sector      | Date Listed | Date Incorporated |
|-------------------|------------|-------------|-------------|-------------------|
| CAPITAL PLC [MRF] | OIL CAPOIL | OIL AND GAS | -           | 29-Aug-85         |
| CONOIL PLC        | CONOIL     | OIL AND GAS | -           | 30-Jun-70         |

|                                     |             |             |           |           |
|-------------------------------------|-------------|-------------|-----------|-----------|
| ETERNA PLC.                         | ETERNA      | OIL AND GAS | -         | 13-Jan-89 |
| JAPPAUL GOLD & VENTURES PLC         | JAPPAULGOLD | OIL AND GAS | 10-Aug-05 | 29-Jun-94 |
| MRS OIL NIGERIA PLC.                | MRS         | OIL AND GAS | -         | 12-Aug-69 |
| OANDO PLC [MRF]                     | OANDO       | OIL AND GAS | 24-Feb-92 | 25-Aug-69 |
| RAK UNITY PET. COMP. PLC. [MRF]     | RAKUNITY    | OIL AND GAS | -         | 20-Dec-82 |
| SEPLAT ENERGY PLC [CG+]             | SEPLAT      | OIL AND GAS | -         | 17-Jun-09 |
| TOTALENERGIES MARKETING NIGERIA PLC | TOTAL       | OIL AND GAS | -         | 6-Jan-56  |

**Source:** Nigerian Exchange Group (NXG), 2023

**Table 3.1 Sampled Listed Oil and Gas companies in Nigeria**

| Company                             | Ticker      | Sector      | Date Listed | Date Incorporated |
|-------------------------------------|-------------|-------------|-------------|-------------------|
| CONOIL PLC                          | CONOIL      | OIL AND GAS | -           | 30-Jun-70         |
| ETERNA PLC.                         | ETERNA      | OIL AND GAS | -           | 13-Jan-89         |
| MRS OIL NIGERIA PLC.                | MRS         | OIL AND GAS | -           | 12-Aug-69         |
| OANDO PLC [MRF]                     | OANDO       | OIL AND GAS | 24-Feb-92   | 25-Aug-69         |
| SEPLAT ENERGY PLC [CG+]             | SEPLAT      | OIL AND GAS | -           | 17-Jun-09         |
| JAPPAUL GOLD & VENTURES PLC         | JAPPAULGOLD | OIL AND GAS | 10-Aug-05   | 29-Jun-94         |
| TOTALENERGIES MARKETING NIGERIA PLC | TOTAL       | OIL AND GAS | -           | 6-Jan-56          |

**Source:** Nigerian Exchange Group (NXG), 2023