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Article

Human Resources Accounting Characteristics and Financial Performance of Oil and Gas Companies in Nigeria

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Abstract: This study examined the relationship between Human Resource Accounting (HRA) characteristics and the financial performance of oil and gas companies in Nigeria. Specifically, the study focused on two key HRA components—Human Capital Cost (HCC) and Training and Development Expenses (TDEX)—and their impact on financial performance metrics, namely Net Profit Margin (NPM) and Return on Assets (ROA). The study employed secondary data extracted from the audited annual reports of six oil and gas companies listed on the Nigerian Exchange (NGX) for the period 2014–2023. PLS regression analysis was used to analyze the data. The findings reveal that human capital cost had a positive and significant effect on net profit margin, highlighting the importance of workforce investments such as recruitment, compensation, and retention programs in improving profitability. Similarly, training and development expenses demonstrate a positive and significant impact on net profit margin. However, the results also show that training and development expenses had a significant negative effect on return on assets, suggesting that the immediate financial costs of training may outweigh short-term efficiency gains in asset utilization. The study concluded that human resource accounting practices play a pivotal role in driving financial performance by optimizing workforce investments. It is recommended that oil and gas companies prioritize human capital investments, adopt performance-based incentives, and carefully balance short-term training costs with long-term organizational goals. Furthermore, the adoption of standardized HRA reporting frameworks is encouraged to enhance transparency and support stakeholder decision-making.

Keywords: : Oil and gas companies; Human Resource Accounting; Human Capital Cost; Training and Development Expenses; Financial Performance; Net Profit Margin; Return on Assets

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1. Introduction

Human resource is the engine that drives the organisation towards its goals through innovation, strategic decision-making, and operational efficiency. They enable organizations to achieve their objectives by leveraging skills, creativity, and adaptability in response to dynamic market and environmental conditions. In recognition of the above, human resource accounting (HRA) has over the last decade taking centre stage to provide the necessary framework for quantifying and reporting the value of human resources as organizational assets. Unlike traditional accounting systems that focus primarily on tangible assets, HRA highlights human capital as an investment rather than a cost. This offers managers, investors, and stakeholders the ability to evaluate the financial contributions of workforce-related activities such as recruitment, training, and retention. Human capital cost, as a key aspect of human resources accounting (HRA) represents the financial resources spent on recruiting, compensating, and retaining employees[1]. The nature of the oil and gas industry requires technical expertise and operational safety. Achieving this requires investments in human capital are critical to sustaining efficiency

and achieving organizational goals. Adopting competitive compensation and workforce retention strategies can enhance employee satisfaction and productivity, reducing turnover and the associated recruitment costs. The impact of human capital cost on financial performance tends to become more obvious as organizations benefit from a stable and skilled workforce capable of driving operational success and profitability [2]. Additionally, training and development expense is another component of HRA indicates the organisation's demonstration of commitment to upgrading employee skills and competencies. Providing training for employees requires outlay of substantial scarce financial resources that an organisation will embark on if they believe in the results such investments will return. While such investments will initially appear as financial outflows but will often yield long-term benefits, including increased productivity, better operational efficiencies, fewer disruptions and enhanced performance. Human resource accounting (HRA) serves not only as a means of valuing human capital but also as an important decision-making tool for organizations that are seeking to optimize workforce investments and drive financial performance [3]. For example, quantifying expenditures on recruitment, compensation, and training, HRA provides management with valuable information on the costs and returns associated with human resource activities. These insights can enable data-driven decisions on workforce planning, talent development, and resource allocation to ensure that investments in employees align with organizational goals. This is particularly relevant in the oil and gas industry where operations are capital-intensive and require highly skilled labour. In this context, HRA facilitates strategic decisions regarding training priorities, compensation structures, and retention programs [4]. Human capital costs influence financial performance both directly, by affecting cost structures and indirectly through enhanced productivity and employee retention. In the same vein, training and development expenses affect performance by enabling a highly skilled workforce capable of minimizing inefficiencies and achieving quality outcomes. In the oil and gas industry, these benefits are more pronounced because of the sector's reliance on human expertise. The purpose of this research papers is to evaluate how human resource accounting characteristics affect the financial performance of oil and gas companies in Nigeria. This is intended to provide valuable insights into the role of HRA practices in enhancing organizational outcomes in oil and gas companies in Nigeria [5]. An organisation's inability to properly account for its human capital and resources could poses significant challenges - including the undervaluation of investments in important workforce, poor decision-making, and an incomplete understanding of their impact on financial performance. For example, human resources remain an intangible asset in conventional accounting practices. This results to a situation where expenditures on recruitment, training, and development are treated as costs rather than investments [6]. This creates a distorted financial picture, as the contributions of the workforce to productivity and profitability are not adequately reflected in the organization's financial statements. In the context of companies the consequences of neglecting human resource accounting (HRA) can be severely distortionary in financial reporting. This considering that the nature of activities in the industry requires a workforce that is highly skilled and the companies contributes significantly to such training and workforce development. One of the problems arising from the failure to account for human capital costs lies in workforce instability, which impacts operational efficiency and profitability. Human capital cost include the financial resources invested in recruiting, compensating, and retaining employees all of which are critical to sustaining organizational performance. For instance, failing to recognize human capital as an investment may lead organizations to prioritize cost-cutting measures such as lower wages or reduced benefits, which can ultimately cause talent migration [7]. Similarly, overlooking training and development expenses as a critical component of human resource accounting can hinder workforce productivity and adaptability. In this regard, HRA serves not only as a means of valuing human capital but also as a decision-making tool for organizations seeking to optimize

workforce investments and drive performance. The absence of effective human resource accounting practices in the oil and gas sector exacerbates challenges by preventing managers and stakeholders from recognizing the true value of workforce investments. Inaccurate reporting of human capital expenditures and training costs can lead to suboptimal resource allocation and strategic misalignment [8]. For instance, companies that do not account for human capital investments in their financial assessments may underfund critical training programs or ignore the importance of competitive compensation structures. These decisions can undermine employee morale, reduce productivity, and weaken the organization's ability to maintain a competitive advantage. Despite the increasing recognition of the importance of HRA in other sectors, there remains a dearth of empirical studies examining the specific components of human capital cost and training and development expenses, particularly in Nigeria's oil and gas industry [9]. Existing research has focused on general human resource management practices and organizational performance without isolating the financial implications of HRA variables. This creates a knowledge gap, as little evidence exists regarding how human capital costs and training investments directly influence financial outcomes the oil and gas sector. This study addresses this gap by focusing on the relationship between human resource accounting characteristics specifically human capital cost and training and development expenses and financial performance in the Nigerian oil and gas industry. The aim of this report is to evaluate the impact of human resource accounting (HRA) characteristics on the financial performance of oil and gas companies in Nigeria [10]. To achieve this aim, the study sets out the following specific objectives:

a. To determine the relationship between human capital cost and net profit margin of oil and gas companies in Nigeria
b. To examine the impact of human capital cost on the return on assets of oil and gas companies in Nigeria.
c. To analyze the relationship between training and development expenses and net profit margin of oil and gas companies in Nigeria.
d. To evaluate the impact of training and development expenses on the return on assets of oil and gas companies in Nigeria.

Human resource accounting (HRA) is an essential practice that focuses on identifying, measuring, and reporting the value of human resources within an organization. Traditionally, accounting systems prioritize tangible assets such as property, equipment, and finances, while human resources are treated merely as operational costs. HRA seeks to address this limitation by recognizing employees as valuable assets whose contributions can be quantified and reported. According to Flamholtz, HRA is defined as "the process of identifying and measuring data about human resources and communicating this information to interested parties." It involves measuring costs incurred on recruiting, training, and developing employees while also valuing their contributions to the organization's success [11]. In the oil and gas industry, HRA is particularly relevant due to the labour-intensive nature of operations and the reliance on highly skilled personnel. Complex technical processes, such as exploration, drilling, and refining, require experienced professionals capable of operating advanced machinery and ensuring safety compliance. Failure to properly measure and account for the costs of attracting, retaining, and developing such talent can distort financial decisions and hinder organizational growth. One of the important components of HRA is human capital cost. This refers to the expenditures that are associated with recruiting, compensating, and retaining employees. These costs include salaries, benefits, recruitment expenses, on-boarding processes, and retention programs. Oil and gas companies - especially the multinationals often spend considerable resources on competitive compensation packages, including performance-based bonuses, housing allowances, and health benefits in order to attract and retain top engineers, geologists, and safety specialists [12]. Recruitment costs can also be substantial, particularly when sourcing highly skilled

professionals from international labour markets to address talent shortages. The oil and gas industry is characterized by high employee turnover rates due to the challenging work environment, including exposure to hazardous conditions, remote work locations, and intense job demands. Companies that fail to invest adequately in competitive remuneration risk losing key personnel, leading to increased recruitment costs, disrupted projects, and reduced operational efficiency. Human capital costs, therefore, are integral to workforce stability, which directly impacts financial performance. Another key component of HRA is training and development expenses and comprise of the investments made to enhance employees' skills, knowledge, and competencies [13]. Training programs cover various areas, including technical skill enhancement, health and safety compliance, environmental management, and leadership development. For example, offshore drilling personnel undergo rigorous training on equipment handling, safety protocols, and emergency response to minimize operational risks. Similarly, companies invest in leadership training for managers to strengthen decision-making capabilities, improve team coordination, and drive organizational growth. Skill gaps among employees can lead to costly operational errors, equipment mishandling, and production downtime [14]. HRA provides a means to proactively recognise and account for the need to fill the skill gaps. For instance, insufficiently trained personnel may inadvertently cause safety incidents, resulting in regulatory penalties, environmental damage, and reputational harm. A lack of training could hamper employees' ability to adapt to new systems and processes, reducing operational efficiency. In practice, training and development expenses in the oil and gas industry are often substantial but necessary for achieving long-term sustainability. Large multinational and gas companies, for example, allocate significant budgets to technical training, safety drills, and leadership workshops to maintain a highly competent workforce.

2. Materials and Methods

Human Capital Theory (HCT) is the underpinning theoretical framework for this study. It provides a foundation for understanding the relationship between human resource accounting (HRA) characteristics and organisational performance. HCT posits that investments in human resources through education, training, and other skill-enhancing activities are akin to investments in physical or financial assets and will likely yield returns in the form of improved productivity, innovation, and economic performance. It views employees not merely as costs but as valuable assets whose knowledge, skills, and capabilities contribute substantially to organizational success. The theory argues that human capital, defined as the collective value of employees' skills, knowledge, competencies, and experiences, plays a critical role in driving the performance and growth of organizations. Just as investments in machinery, infrastructure, or technology are expected to generate future returns, expenditures on recruitment, training, and development of employees are considered investments that can enhance an organization's overall output. Human Capital Theory thus underscores the strategic importance of human resources and supports the need to measure, manage, and report the costs associated with human capital in financial statements, which aligns closely with the principles of HRA. In the context of this study, HCT provides a deeper understanding of the relationship between human capital cost, training and development expenses, and the associated organisation performance [15]. This considering that oil and gas companies operate in a highly technical and competitive environment where skilled labour is critical to managing complex processes that account for their success. The theory also explains that investments in employee training enhance productivity by equipping workers with the necessary skills to operate advanced tools. Furthermore, HCT provides insights into how companies can achieve competitive advantage through their human resources in an industry characterized by global competition and labour mobility. Several empirical studies have examined the relationship between human resource accounting practices and financial performance across industries and revealing varying degrees of association. The study by Ovedje and Iserien examined the effect of human resource

accounting on financial performance using data from listed manufacturing firms in Nigeria. The results revealed that while employee size positively impacted financial performance, directors' remuneration had a negative effect. These findings suggest that workforce size contributes significantly to organizational productivity, whereas excessive remuneration for directors can diminish profitability. This underscores the need for organizations to adopt performance based compensation structures, ensuring that employee investments yield optimal returns. In the U.S. banking industry, Strickland-Jackson explored the impact of human capital and goodwill on firm performance during periods of economic downturn. Using data from the U.S. Securities and Exchange Commission (SEC), the study employed Pearson's correlation and regression analysis. The results showed a significant positive relationship between human capital and firm performance under normal economic conditions but no significant relationship during economic recessions [16]. This highlights the potential volatility of human capital contributions, emphasizing the importance of sustaining workforce investments even during periods of economic instability. Ali emphasized the importance of HRA in enabling managers to make informed decisions regarding workforce investments. The study noted that human resource accounting focuses on measuring costs related to recruitment, training, and employee development while ensuring accurate representation of human capital in financial statements. Failure to recognize these investments, Ali argues, can distort an organization's financial position, leading to ineffective decision-making and misallocation of resources. This is particularly relevant in the oil and gas sector, where workforce costs are significant and directly influence operational efficiency. Micah, Ofurum, and Ihendinihu investigated the relationship between human resource accounting disclosure (HRAD) and firm financial performance in Nigeria. Using a sample of 52 companies and data spanning five years, the study revealed a strong positive correlation between Return on Equity (ROE) and HRAD. The findings suggest that firms with greater transparency in reporting human resource investments enjoy improved stakeholder trust, external reputation, and overall performance [17]. This aligns with the broader argument that HRA enhances decision-making by providing stakeholders with a clearer understanding of the organization's workforce contributions. Further, Momoh, Odion, and Oziegbe examined the impact of human resource accounting on firm performance using a case study of Procter and Gamble Nigeria. The study employed a survey design and found a positive and significant relationship between human resource accounting practices such as employee-related costs and benefits and firm performance indicators, including service delivery and financial viability. The study recommends greater adoption of HRA to improve transparency and decision-making. This evidence suggests that workforce investments contribute not only to financial performance but also to operational excellence and stakeholder confidence. Despite the growing body of literature on HRA, studies focusing on the oil and gas sector remain limited. Most existing research, including that of Ovedje and Iserien and Micah et al. had primarily targeted manufacturing and service industries thus leaving a gap in understanding the role of HRA in resource-driven sectors. This study seeks to address these gaps by focusing on the relationship between human resource accounting characteristics specifically human capital cost and training and development expenses and financial performance in the Nigerian oil and gas industry.

The study adopts an ex-post facto research design. This design is deemed appropriate for analyzing historical data to investigate the relationship between human resources accounting (HRA) characteristics and financial performance in Nigerian oil and gas companies. It provides a structured framework for the collection, analysis, and interpretation of secondary data to address the research objectives effectively. The study employs content analysis to extract secondary data from the audited annual financial reports of oil and gas companies listed on the Nigerian Exchange (NGX). A purposive sampling technique is used to select six (6) oil and gas companies that meet specific criteria, such as consistent listing on the NGX and availability of complete annual financial reports for the period spanning from 2014 to 2023. Content analysis enables the systematic examination of financial disclosures, making it suitable for capturing data on human

resource accounting practices and financial performance metrics. Human Resource Accounting Variables: Human Capital Cost (HCC): Costs associated with salaries, recruitment, employee benefits, and other expenses related to hiring and retaining skilled personnel [18]. Training and Development Expenses (TDEX): Expenditures on employee training programs, workshops, certifications, and skill enhancement initiatives. Financial Performance Variables: Net Profit Margin (NPM): Measure of profitability that indicates the percentage of revenue remaining after all expenses have been deducted. Return on Assets (ROA): An efficiency metric that reflects how well a company utilizes its assets to generate earnings. Firm Size (SIZE) is included as a moderating variable. This is measured as the log of the total assets of the individual companies

3. Results

The study employs Panel Least Squares (PLS) regression analysis to assess the relationship between HRA characteristics and financial performance. Panel data analysis is suitable for this study because it captures both cross-sectional (differences between companies) and time-series (over multiple years) variations, providing robust insights into the relationship. The dependent variables represent financial performance measures (NPM and ROA), while the independent variables represent human resource accounting characteristics (HCC and TDEX) and the moderating variable firm size (SIZE) [19]. The functional relationships are expressed as follows:

NPM = f(HCC, TDEX, SIZE) 1

ROA = f(HCC, TDEX, SIZE) 2

The econometric models are specified as:

Model 1: $NPM_{it} = \alpha + ß_1HCC_{it} + ß_2TDEX_{it} + ß_3SIZE_{it} + \mu_{it}$ 3

Model 2: $ROA_{it} = \alpha + ß_1HCC_{it} + ß_2TDEX_{it} + ß_3SIZE_{it} + \mu_{it}$ 4

Where:

i refers to the individual oil and gas company; t refers to the time period; α is the intercept; $ß_1$, $ß_2$, $ß_3$ are the regression coefficients; μit is the error term. The results from the Panel Least Squares regression analysis will help determine the extent to which human resource accounting variables (human capital cost and training and development expenses) influence financial performance indicators (Net Profit Margin and Return on Assets) in the Nigerian oil and gas industry.

The descriptive statistics in Table 1 shows that the mean value of Net Profit Margin (NPM) is 0.6797, with a standard deviation of 1.8356, indicating significant variation in profitability across the sampled oil and gas companies.

Table 1: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Obs
NPM	0.6797	0.0878	8.8986	-0.7487	1.8356	60
ROA	0.0655	0.0806	0.4366	-0.2975	0.1546	60
HCC	7.3081	7.5354	8.0712	5.9870	0.6185	60
TDEX	7.3357	7.4968	8.3094	6.2548	0.5904	60
SIZE	7.7314	7.7506	8.5897	6.8325	0.5356	60

While some firms achieved maximum profitability of 8.8986, others reported losses, as evidenced by the minimum value of -0.7487. For Return on Assets (ROA), the mean value is 0.0655, with a standard deviation of 0.1546, reflecting a relatively lower but stable efficiency in asset utilization among firms. The maximum ROA of 0.4366 indicates that some companies efficiently generated returns on assets, whereas others recorded negative values (minimum -0.2975). This suggests possible operational challenges or inefficiencies in the affected companies. The Human Capital Cost (HCC) and Training and Development Expenses (TDEX) exhibit similar means of 7.3081 and 7.3357, respectively, with moderate standard deviations (0.6185 and 0.5904). The close values indicate that firms allocate comparable financial resources to workforce costs and development. However, the observed variations imply that some companies invest more heavily in

training and human capital. Lastly, Firm Size (SIZE) had a mean value of 7.7314, with relatively lower variability (standard deviation of 0.5356). This consistency suggests that the sampled companies are similar in scale, providing a balanced context for evaluating the impact of HCC and TDEX on financial performance measures like NPM and ROA.

The Pearson correlation results in Table 2 show that Net Profit Margin (NPM) had a moderate positive correlation with ROA of 0.4288.

Table 2: Pearson Correlation

	NPM	ROA	HCC	TDEX	SIZE
NPM	1				
ROA	0.4288	1			
HCC	0.0228	0.3904	1		
TDEX	0.3390	0.1037	0.8609	1	
SIZE	0.1434	0.3378	0.9435	0.9265	1

This suggests that firms with higher profitability also tend to utilize their assets more efficiently. Human Capital Cost (HCC) had a weak positive correlation with NPM (0.0228) but a stronger positive correlation with ROA (0.3904), indicating that while human capital investments have minimal immediate impact on profitability, they contribute more significantly to asset utilization. Training and Development Expenses (TDEX) exhibit a moderate positive correlation with NPM (0.3390) and a weaker correlation with ROA (0.1037). This also suggests that training expenditures influence short-term profitability more than long-term efficiency. Finally, Firm Size (SIZE) had strong positive correlations with HCC (0.9435) and TDEX (0.9265), This is a reflection of larger firms' capacity to invest more in workforce costs and training

The regression results in Table 3 show that Human Capital Cost (HCC) had a positive and significant effect on NPM, with a coefficient of 2.5459 and a p-value of 0.0084. This indicates that investments in human capital, such as salaries and recruitment costs, significantly contribute to improving profitability in the sampled oil and gas companies.

Table 3: Panel Least Square Regression Result for NPM, HCC, TDEX, and SIZE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.9216	2.9942	1.6437	0.1058
HCC	2.5459	0.9319	2.7319	0.0084
TDEX	4.2761	0.8595	4.9749	0.0000
SIZE	1.1022	1.4547	0.7577	0.4518

R-squared: 0.4006; F-statistic: 12.4740; Prob(F-statistic): 0.0000; Durbin-Watson stat: 0.9510

Similarly, Training and Development Expenses (TDEX) exhibit a positive and highly significant effect on NPM, with a coefficient of 4.2761 and a p-value of 0.0000. This suggests that training and skill development programs enhance employee productivity and directly improve profitability. However, Firm Size (SIZE) shows a positive but statistically insignificant effect on NPM, with a coefficient of 1.1022 and a p-value of 0.4518. While larger firms tend to invest more in human capital, their size alone does not directly influence short-term profitability. The R-squared value of 0.4006 indicates that approximately 40% of the variation in NPM is explained by HCC, TDEX, and SIZE, while the F-statistic (12.4740, $p = 0.0000$) confirms the overall significance of the model.

The regression results in Table 4 indicate that Human Capital Cost (HCC) had a positive but statistically insignificant effect on ROA, with a coefficient of 0.1200 and a p-value of 0.1166.

Table 4: Panel Least Square Regression Result for ROA, HCC, TDEX, and SIZE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.7647	0.2420	-3.1596	0.0025
HCC	0.1200	0.0753	1.5937	0.1166
TDEX	-0.3751	0.0695	-5.3990	0.0000
SIZE	0.3498	0.1176	2.9750	0.0043

R-squared: 0.4482; F-statistic: 15.1597; Prob(F-statistic): 0.0000; Durbin-Watson stat: 0.8064

This suggests that while investments in human capital contribute to asset utilization, their impact may not be immediately evident or strong enough to reach statistical significance. Conversely, Training and Development Expenses (TDEX) exhibit a negative and significant effect on ROA, with a coefficient of -0.3751 and a p-value of 0.0000. This finding implies that, although training programs are crucial for long-term growth, their short-term costs may outweigh immediate efficiency gains, leading to a decline in asset returns [20]. Firm Size (SIZE) had a positive and significant effect on ROA, with a coefficient of 0.3498 and a p-value of 0.0043. This indicates that larger firms leverage their scale and resource base to improve asset utilization. The R-squared value of 0.4482 suggests that 44.8% of the variation in ROA is explained by HCC, TDEX, and SIZE, while the F-statistic (15.1597, $p = 0.0000$) confirms the overall significance of the model.

4. Discussion

The results show that Human Capital Cost (HCC) had a positive and significant effect on Net Profit Margin (NPM). This suggests that investments in recruiting, compensating, and retaining skilled personnel contribute significantly to short-term profitability. This finding aligns with Ovedje and Iserien, who reported that workforce size positively impacts financial performance by enhancing operational efficiency. It also supports Micah, Ofurum, and Ihendinihu, who found that human resource disclosures encourage stakeholder trust and external reputation, ultimately driving firm profitability. Similarly, Training and Development Expenses (TDEX) exhibit a positive and highly significant effect on NPM. This finding highlights the critical role of workforce training and skill development in boosting productivity and profitability. Continuous investments in training ensure that employees acquire the skills necessary to handle advanced technologies, comply with safety standards, and minimize operational errors—factors that are particularly relevant in the capital-intensive and risk-prone oil and gas sector. These results are consistent with Momoh, Odion, and Oziegbe , who emphasized that human resource accounting practices, particularly employee development, enhance firm performance. In contrast, while Human Capital Cost (HCC) had a positive effect on Return on Assets (ROA), the effect is statistically insignificant. This suggests that the long-term contribution of human capital investments to asset efficiency may not be immediately observable. Firms may experience a lag in realizing asset returns as workforce investments, such as salaries and benefits, gradually translate into enhanced operational efficiency. This finding contrasts with Strickland-Jackson , who found significant positive relationships between human capital and firm performance in the U.S. banking sector [21]. The difference may be attributed to contextual factors, such as sector-specific challenges in the Nigerian oil and gas industry. Interestingly, Training and Development Expenses (TDEX) exhibit a significant negative effect on ROA (coefficient. This suggests that while training programs are critical for workforce capacity building,

their immediate costs may outweigh short-term efficiency gains, leading to reduced asset returns. This finding aligns with Ali (2020), who argued that human resource investments, though necessary, may initially appear as financial outflows before yielding long-term benefits. Overall, the results reinforce the importance of recognizing human resources as valuable organizational assets. Investments in human capital and training can drive profitability and operational efficiency, albeit with varying effects on short-term and long-term financial outcomes.

5. Conclusion

The results revealed that human capital cost has a positive and significant effect on net profit margin, emphasizing the importance of recruiting, compensating, and retaining skilled employees. Companies that prioritize competitive remuneration and effective retention strategies experience improved workforce productivity, which directly enhances profitability. However, the relationship between human capital cost and return on assets, though positive, was not statistically significant, suggesting that the long-term impact of workforce investments on asset efficiency may take time to materialize. Training and development expenses demonstrated a positive and highly significant relationship with net profit margin, underscoring the critical role of continuous skill enhancement in driving short-term profitability. However, the findings also revealed a significant negative relationship between training expenditures and return on assets. This suggests that the immediate financial costs of training programs may outweigh short-term efficiency gains in asset utilization. For firms operating in the capital-intensive oil and gas sector, training is essential for long-term operational success, but it must be carefully managed to prevent short-term declines in financial performance. Similarly, firm size showed a significant positive effect on return on assets but no significant impact on net profit margin. While larger firms benefit from economies of scale and resource capacity to enhance asset efficiency, firm size alone does not guarantee profitability without aligning workforce investments to operational goals. Given these findings, it is essential for oil and gas companies to view human capital costs as strategic investments rather than operational expenses. Recruitment, salaries, and retention programs should be aligned with the goal of stabilizing the workforce and boosting organizational productivity. Performance-based incentives and competitive compensation structures will further ensure that skilled employees are retained, ultimately driving profitability. Training and development expenses must be optimized to avoid negative short-term effects on asset utilization. Companies should focus on high-impact training programs that align with organizational objectives, improve employee skills, and reduce operational inefficiencies. Regular evaluations of training effectiveness will allow firms to strike a balance between short-term costs and long-term gains. Larger firms must leverage their economies of scale to enhance operational efficiency and asset utilization. Managers should integrate workforce planning strategies that maximize the value of human capital investments while aligning these resources to firm size and capacity. Furthermore, adopting standardized HRA reporting frameworks will improve transparency and allow stakeholders to understand the financial contributions of human resource investments. Policymakers and regulatory bodies should encourage the inclusion of human resource accounting disclosures in financial statements to ensure consistency and accountability across the sector.

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