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Empirical Measurement of the Effect of Human Capital Investment on Return on Assets of Banks in Nigeria

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Abstract:
This paper is aimed at investigating the relationship between human capital investment and financial performance of deposit money banks in Nigeria. The study employed a survey research design. The population size of the study was two thousand and seventy three (2073) employees of twenty four (24) deposit money banks from six (6) states of the south-south geo-political zone; while the sample size was 335 of the employees. Data was collected by primary means. The findings of the study indicated that employees' educational investment has a positive and significant relationship with return on assets; staff welfare investment showed negative and significant relationship with return on assets while employee health investment showed a positive and significant relationship with return on assets. The study concluded that these outcomes collectively emphasize the intricate and multifaceted nature of the linkages between human capital components and financial metrics within the banking sector. This led to the recommendation that these banks should continue to prioritize and strategically invest in educational initiatives for the benefits of their workforce as such investments are evidently associated with improved financial performance; and also, banks should carefully reassess and potentially reallocate their investments in employee health and welfare schemes ensuring a more targeted and impactful approach to achieve optimal financial performance.
Keywords: *Human capital investment, return on assets, intellectual property, financial performance*

1. Introduction

In recent years, the financial performance of deposit money banks in Nigeria has exhibited rapid fluctuations due to regulatory changes, economic conditions, and the banking industry's overall stability among other factors. According to Rappaport (2021), these banks have faced challenges related to non-performing loans, but they have also demonstrated resilience through strategies like digital transformation and improved risk management to adapt to the dynamic financial landscape in Nigeria. Furthermore, the profitability of deposit money banks in Nigeria has been impacted by interest rate fluctuations, competition, and the adoption of fintech innovations. To maintain and enhance their financial performance, these banks have been diversifying their service offerings, expanding their customer base, and exploring new revenue streams while maintaining prudent financial management practices. Corporate entities in emerging economy like the one of Nigeria are developing workable strategies that will enable them to meet their objectives and the financial service sector is not an exemption (Osirim, *et al;* 2019) and one of the strategies adoptable is a strategic and articulated investment in human capital to maximize profit as well as shareholders wealth

Additionally, government policies and regulatory changes, such as capital adequacy requirements and anti-money laundering measures, have played a pivotal role in shaping the financial performance of deposit money banks in Nigeria. These banks have had to adapt to evolving regulatory landscapes to ensure compliance while still striving for sustainable growth and profitability in the Nigerian banking sector. Moreover, in recent years, deposit money banks in Nigeria have been focused on improving their asset quality and loan recovery mechanisms to reduce non-performing loans and associated risks. They have also embraced technology-driven solutions like mobile banking, online platforms, and digital payment systems to enhance operational efficiency and customer experience. These efforts are critical for maintaining and potentially improving the financial performance of deposit money banks in Nigeria as they navigate the challenges and opportunities within the country's banking industry.

Profit maximization is one of every business's main goals. This main goal will be impossible to fulfill without a strategic investment in human capital to ensure that the firm has the kind of personnel it needs to meet its corporate goals. Human capital, according to Acheampong (2020), is the combination of brains, skills, and knowledge that gives an organization its own personality. An organization's sole irreplaceable capital is its people's knowledge and abilities. The effectiveness with which people share their expertise with others who use it determines the capital's productivity. According to Aldaibat and Irtaimeh (2021), Nigerian banks are well renowned for using the slogan “our staffs are our biggest asset”. If this claim is examined thoroughly, it is clear that the greatest asset has not received the necessary attention to bring out the best in an individual. The banking industry in Nigeria has the greatest rate of recruitment. Essentially, they now hire first-class university graduates as well as IT and finance professionals. For this type of human capital, who spend the most of their lives working and maximizing financial performance, one would expect sufficient motivation and a competitive benefits package. According to Warusawitharana (2021) the opposite, on the other hand, has always been the case. Human capital development in the banking business entails investing in the workforce's talent, inventiveness, and technical aptitude in order to increase production. This is not restricted to workers alone but extends to even the employers/entrepreneurs because they too need to develop themselves for more efficiency and effectiveness in the management of physical and other human resources.

Despite the increased interest in accounting for its value, it is disappointing to notice that most financial statements issued by most businesses in Nigeria and other areas of the world have yet to adequately capture this all-important asset (Dhatt et al 2021). In light of this argument, we believe that financial statements fail to communicate to management and the investor community the true state of the business in terms of human capital and development. Human capital, on the other hand, is defined as the driving force behind future innovation and profit margin expansion. As a result, the current study investigates the relationship between human capital value and deposit money bank financial performance in Nigeria.

1.2 Statement of the Problem

There are several challenges and problems related to human capital investment that can impact the financial performance of deposit money banks (DMBs) in Nigeria which have been identified by some scholars; Acheampong (2020), Igbinoso and Chijuka (2022), Kabaje,*et al*. (2022), Khrawish, et al. (2021), Monteiro (2021), Ngeno (2022), Rappaport (2021), Stowe et al. (2022), and Warusawitharana (2021) to include the existence of a skills gap within the workforce of DMBs. This refers to a mismatch between the skills possessed by employees and the skills required to meet the evolving demands of the banking industry. Rapid technological advancements and changes in customer preferences require DMBs to have employees with up-to-date skills in areas such as digital banking, data analytics, and risk management. The lack of relevant skills can hinder the bank's ability to innovate, deliver quality services, and compete effectively, thus impacting financial performance; coupled with this is the issue of brain drain and talent retention. Nigeria has experienced a significant brain drain, with highly skilled professionals leaving the country in search of better opportunities abroad. This talent drain affects DMBs, as they may struggle to retain skilled employees who are vital for driving financial performance. Losing talented individuals to other industries or foreign banks can lead to a loss of institutional knowledge, increased recruitment costs, and hindered innovation. These issues can ultimately affect the bank's profitability and customer satisfaction levels.

It is impossible to overstate the value of human resources in any firm. However, there are numerous controversies surrounding human resource accounting. It features two equally weighted sides, one for and one against. It claims that the quality of human capital does not meet the criteria for it to be classified as assets; this criterion is taken from the definition of assets as resources held or controlled by an entity as a result of past events that would provide future benefits to the business. Human capital, according to the above concept, cannot be owned because an employee can choose to work somewhere else at any time; he can even choose to learn a new skill and change jobs totally. Finally, the value of human capital must be determined.

Those who argue for the inclusion of human resources in an organization's assets believe that human resources are the most valuable of all an organization's resources. Economists are among those who feel that human resources should be treated as an asset and that their value should be reflected in a company's financial statements. They go on to say that because an asset is defined as any expense that provides benefits for more than one financial year, human resources meet this criteria and should be treated as such. When the value of a company's human capital is recognized and carried as an asset in the statement of financial position, the company performs better. Finally, they acknowledged that human resources are unlike other physical assets in that they cannot be replaced. Therefore, there is need to investigate the effect of human capital investment on the financial performance of deposit money banks in Nigeria.

1.3 Objectives of the Study

The broad objective of this study was to investigate the effect of human capital investment on financial performance of deposit money banks in Nigeria. Specifically, the study sought to:

i. investigate the effect of employees' educational investment on return on assets of deposit money banks in Nigeria.
ii. investigate the effect of employee health investment on return on assets of deposit money banks in Nigeria.
iii. examine the effect of staff welfare investment on return on assets of deposit money banks in Nigeria.

1.4 Research Questions

The following research questions were formulated from the objectives of the study as shown below:

i. To what extent does employees' educational investment affect return on assets of deposit money banks in Nigeria?
ii. To what extent does employees' health investment affect return on assets of deposit money banks in Nigeria?
iii. To what extent does staff welfare investment affect return on assets of deposit money banks in Nigeria?

1.5 Research Hypotheses

The hypotheses of the study were formulated from the objectives of the study and stated in null forms as follows;

Ho_1: Employees' educational investment does not have significant effect on return on assets of deposit money banks in Nigeria.
Ho_2: Employee health investment does not have significant effect on return on assets of deposit money banks in Nigeria.
Ho_3: Staff welfare investment does not have significant effect on return on assets of deposit money banks in Nigeria.

2. Review of Related Literature

2.1 Conceptual Review

2.1.1 Human Capital Investment

Human Capital in its real sense is an invisible and intangible asset. It is a component of intellectual capital. To date, available literatures indicate that there are several definitions of the concept of human capital based on existing theories. Human capital comprises of the talents, skills and knowledge of a company's workforce. It is what Hussaini and Lawal (2021) defined as the value of all the employees in the organization and the rewards that is attached to its utilization. In addition to the above, human capital of an organization is the collective sum of the attributes, life experience, knowledge; inventiveness, energy, and enthusiasm that its people choose to invest in their work. Similarly, Igbinoso and Chijuka (2022) pointed that human capital is a broad concept encompassing many components but essentially describing the quality of the labour force. As plausible as these definitions are, we must note that no widely acceptable definition of human capital has emerged. A general consensus however is that human capital is a component of

Intellectual Capital.Despite the fact that organizations do invest in human capital, one fact that has been argued in existing literature is that human capital does not belong to organizations, rather, they are owned by the respective employees.

Theodore Schultz invented the term ‘human capital’ in 1960’s to reflect the value of our human capabilities. He believed human capital was like any other capital that could be invested on through education, training and enhanced benefits that will lead to an improvement in the quality and level of production. Adam Smith defined four types of fixed capital which he identified as machines, buildings, land and Human Capital. Smith described human capital as skills, dexterity The human capital investment in deposit money banks in Nigeria is a vital determinant of their overall success, as the skills, knowledge, and expertise of their workforce significantly contribute to their ability to innovate, provide quality financial services, and adapt to the evolving banking landscape in the country. The human capital investment in deposit money banks in Nigeria not only influences their operational efficiency but also shapes their competitiveness in a dynamic market, making effective talent management and development strategies essential for sustainable growth and profitability.

The human capital investment in deposit money banks in Nigeria plays a central role in shaping their long-term sustainability, with a well-trained and motivated workforce being crucial for maintaining customer trust, achieving strategic objectives, and navigating the complexities of the financial sector. In deposit money banks in Nigeria, the human capital investment extends beyond mere numbers on a payroll; it encompasses the collective intellect, experience, and dedication of their employees, all of which contribute significantly to their ability to thrive in a competitive and ever-changing banking environment.

Recognizing and nurturing the human capital investment within deposit money banks in Nigeria is pivotal, as it not only drives operational excellence but also fosters a culture of innovation and adaptability, enabling these banks to stay resilient and responsive to the evolving needs of their customers and the broader financial industry landscape. This emphasis on human capital investment underscores the importance of investing in employee development, fostering a conducive work environment, and aligning the skills and aspirations of the workforce with the strategic goals of the banks, ultimately contributing to their sustained growth and competitiveness within the Nigerian banking sector.

Acknowledging and nurturing this human capital investment is not just a matter of personnel management; it's a fundamental strategy for ensuring the long-term sustainability and prosperity of deposit money banks in Nigeria, allowing them to remain agile, competitive, and responsive to the dynamic demands of the banking industry. The human capital investment in deposit money banks in Nigeria encapsulates the intangible assets represented by their workforce, encompassing their skills, expertise, and commitment. It serves as the bedrock for these banks' resilience and prosperity, underlining the necessity of continual investment in human capital development to navigate the complexities of the financial sector successfully. The human capital investment within deposit money banks in Nigeria represents the cornerstone of their success, encompassing the skills, knowledge, and dedication of their employees, and it is essential for their ability to thrive, innovate, and adapt in a challenging and ever-evolving financial landscape. (physical, intellectual, psychological, etc.) and judgment.

2.1.2 Human capital investment and Financial Performance

Human capital investment acts as the linchpin connecting a bank's workforce to its bottom line, emphasizing that a skilled, engaged, and adaptable team is not only an asset but also a fundamental driver of financial success, ultimately determining a bank's ability to thrive in a dynamic and competitive financial landscape. Hence, the synergy between human capital investment and financial performance in banks is undeniable, with a capable and motivated workforce serving as the lifeblood of a bank's ability to innovate, adapt, and achieve sustained financial excellence, making investment in human capital a strategic imperative for long-term success in the financial sector.

The human capital investment within deposit money banks in Nigeria is not just a cost but a strategic asset. It is the driving force behind operational excellence, customer satisfaction, risk management, and ultimately, financial success. Therefore, fostering a culture of continuous learning, talent development, and employee engagement is paramount for banks seeking to thrive in the dynamic and competitive Nigerian banking industry. Additionally, aligning the skills and capabilities of the workforce with the bank's strategic objectives is crucial for achieving and sustaining robust financial performance. The interplay between human capital investment and financial performance is the cornerstone of a bank's ability to prosper in the ever-evolving financial landscape, highlighting the pivotal role of a skilled, motivated workforce in driving efficiency, innovation, and sustainable growth.

2.1.3 Dimensions of Human capital investment

Employee Educational Investment .

Employees training both physically, socially, intellectually and mentally are very essential in facilitating not only the level of productivity but also the development of personnel in any organization. Training is a systematic development of the knowledge, skills and attitudes required by employees to perform adequately on a given task. Employees training and development is seen as the most important formation of any competent management. The reason is not far-fetched; the ever increasing technological sophistication especially in this age of computer technology has really made it compulsory for organizations to meet changing situations. Training for capacity building is central to sustaining economic growth and development because human capital is the greatest assets of any organization.

Employee education involves training and development of workforces and managers. Training and development are often used to close the gap between current performances and expected future performance. Training and development falls under HRD function which has been argued to be an important function of HRM (Nzuve 2021).Amongst the functions activities of this function is the Identification of the needs for training and development and selecting method sand programmes suitable for these needs, plan how to implement them and finally evaluating their outcome results (Okumbe 2020).

In the banking sector, investing in employee education is crucial for maintaining a competitive edge and ensuring the continued growth and success of the organization. Educational costs for employees encompass a wide range of activities and programs aimed at enhancing their skills, knowledge, and capabilities. These investments not only benefit individual employees but also contribute to the overall development and sustainability of the banking institution.

Firstly, the banking sector recognizes the importance of continuous learning and professional development to keep up with evolving industry trends, regulatory changes, and technological advancements. Therefore, substantial resources are allocated to support employees' access to educational opportunities. This includes funding for formal education, such as degree programs in finance, economics, or business administration, as well as specialized certifications and training courses tailored to the financial services industry.

Furthermore, Employee Educational Investments extend beyond traditional classroom-based learning. Banking institutions often offer on-the-job training, mentorship programs, and workshops to foster skill development and promote innovation. These initiatives not only enhance employees' expertise in areas like risk management, customer service, and financial analysis but also cultivate leadership qualities and a strong sense of commitment to the organization's goals.

Employee Health Investment

Employee health investments encompass a range of initiatives and benefits aimed at ensuring employees' physical and mental health. These initiatives go beyond mere financial obligations and represent a strategic investment in the workforce, contributing to employee satisfaction, productivity, and long-term retention. Healthcare benefits, a cornerstone of employee health investments, provide employees and their families with access to comprehensive medical services. This includes coverage for doctor visits, hospital stays, prescription medications, and preventive care. By offering robust healthcare benefits, banking institutions not only help employees maintain good health but also provide a sense of security and peace of mind, relieving them of the financial burden associated with medical expenses.

Mental health support is another vital aspect of employee health investments. Given the high-stress nature of the banking industry, institutions often provide access to mental health services, employee assistance programs, and counseling. These services demonstrate a commitment to addressing the well-being of employees beyond physical health, acknowledging the importance of mental health in job performance and overall life satisfaction.

Wellness programs and initiatives are also part of employee health investments. These may include fitness programs, healthy eating initiatives, and stress reduction activities. Such programs promote a culture of health and well-being within the organization, encouraging employees to adopt healthier lifestyles and reduce the risk of illness.

Moreover, employee health investments contribute to a positive corporate image. Banking institutions that prioritize employee health are seen as socially responsible and caring, which can enhance the organization's reputation among both customers and potential employees. This positive image can attract top talent and strengthen the institution's competitive position. Lastly, in addition to the immediate benefits to employees, a healthy workforce leads to reduced absenteeism, increased productivity, and decreased healthcare-related turnover costs. This not only improves the bottom line but also ensures the bank's ability to provide uninterrupted service to customers.

These costs underscore the banking sector's commitment to both its employees and its long-term success within a competitive industry. Employee health investments in the banking sector represent a holistic approach to workforce management, reflecting a commitment to the physical, mental, and emotional well-being of employees. Beyond the immediate benefits, these costs have a profound impact on the organization's long-term sustainability. A healthy workforce is more likely to be engaged and motivated, leading to increased job satisfaction and higher levels of productivity. When employees are in good health, they are better equipped to perform their duties effectively, make sound decisions, and serve customers with excellence.

2.1.3 Financial Performance

Financial performance in the banking sector is a complex and dynamic subject that encompasses a wide range of metrics, indicators, and factors. It serves as a critical barometer of an institution's health, stability, and competitiveness within the financial industry. At its core, strong financial performance in the banking sector reflects an institution's ability to effectively manage its assets, liabilities, and capital resources while generating sustainable profits. There are several key aspects and indicators that contribute to assessing financial performance however we shall restrict our discussion to return on assets.

Return on Assets (ROA): Return on assets is an indicator of how profitable a company is relative to its total assets. A better and cheapest way to analysis firm profitability is to connect it to reported net profit. (net income). It a more comprehensive concept than Return on Equity (ROE). It measures how efficient the assets employed are used to generate earning for the firm (Helfert, 2020). Net income comes after deduction of taxes and interest to the total assets on the balance sheet. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Return on assets is a profitability ratio that provides how much profit a company is able to generate from its total assets after taxes and interest deductions (Heikai et al 2021). The significance of ROA indicates how effective each asset employed could raise earnings or contributes to net profit for stakeholder's fund (Mayer et al., 2022). ROA shows how asset are moves in the company's profitable area. Return on assets is given as a percentage which shows that the higher the number, the more official a company's management is at managing its balance sheet to generate profits. It is calculated by dividing a company's annual earnings by its total assets. ROA is displayed as a percentage. The higher the ROA the better the firm is doing; also, as total assets increase it reduces. Similarly, as net profit increases, it also increases the net worth of ROA which is good.

$$\text{ROA} = \frac{Net\ Profit}{Total\ Assets} \times \frac{100}{1}$$

Where net profit is the amount of total revenue that remains after accounting for all expenses for production: overhead, operations, administration, cost of production interest and taxes. Total assets are the total amount of assets owned by an entity both from internal and external assets contributors.

2.2 Theoretical Review

This study has been anchored on human capital theory advocating the relevance of human capital investment and financial performance.

The Human Capital Theory

The human capital theory was introduced by Gary Becker and Theodore Schultz in 1961. The fundamental postulation of human capital theory stated that the investments on education and training could add to productivity which has become an increasingly important component of the workforce. Thus, human capital theory rests on the employees' finance of the expected returns on productivity. Dae-bong (2022) recognized that human capital theory holds competences, skills, data and skills of the personnel that contribute to the performance. He also stated that companies have an incentive to seek productive human capital and to add to the human capital of their existing employees. Subsequently, Freeman (1976) critiqued the human capital theory by pointing out the difficulty of measuring the future income and the central idea of human capital itself. Freeman stated that not all investments in education guarantee an advance in productivity as judged by employers or the market.

This principle notes that it is easier for an organization to adopt and implement new technologies with a more professional workforce with relevant skills, ensuring a return on investment in education and training for employees (Izushi & Haggins, 2021). Human capital economists assume that education, since it improves efficiency, is an expenditure. The theory holds that a company's employees' knowledge, experience, skills and abilities contribute to its competitive advantage.

Thus while not ignoring the value of certain resources in the economic process; the principle of human capital claims that human beings are a nation or organization's most valuable assets. Man possesses potentially infinite talents, expertise and skills that can be developed, harnessed and managed to ensure regional, sectorial or organizational survival and strong improvement. The area of creation and philosophy of human capital is vast and complex. With rising globalization and work market fragmentation due to global economic decline and financial crisis, the definition of the modern economic and business literature has drawn more attention than ever before. This is because no organization, without a dedicated, loyal, fulfilled and inspired workforce, will succeed. This theory underscores the point that by valuing and enhancing the capabilities of their employees, deposit money banks in Nigeria can not only maximize the potential of their workforce but also adapt to the evolving banking landscape, reduce employee turnover, and achieve a more favourable financial performance.

2.3 Empirical Review

For the purpose of ascertaining the gap in the literature in regard to human capital investment and financial performance of deposit money banks in Nigeria, related studies conducted by other researchers both locally and internationally were reviewed by the researcher of the present study. These relevant studies by previous researchers included the following:

Oppong *et al*. (2022) investigated intellectual capital and firm performance. Data on 33 insurance firms in Ghana from 2008 to 2021 to measure intellectual capital and the effect of its components on firm performance was used. The study adopted a descriptive research design and made use of secondary data. Multiple regression analysis was employed to analyze data. They revealed in their findings that human capital efficiency has a significant effect on the productivity of insurance firms. In addition, their results showed that human capital has indicated a positive relationship with the interest of new students in the future.

Iwamoto and Suzuki (2022) examined human capital and financial performance. They stated that human capital is a financial performance. The study using multivariate linear regression. Firms are increasingly interested in the role of human capital. In addition, the disclosure of human resources has become more substantive over time on providing more profound and coherent forms of publication of relevant information.

Ali and Chaudhry (2022) also examined the impact of human capital investment on organization performance in the service sector of five major cities of Punjab and Pakistan using questionnaires administered to faculty members of universities and officer of banking sector. The study likewise utilized several regression models. Human capital was measured by as knowledge, professional proficiency; experience and cognitive ability while organization performance was measured using career satisfaction, life satisfaction and job satisfaction. Analysis of the result showed that human capital had a positive effect on all measures of performance.

Utami *et al.* (2022) examined human capital investment on organization performance. They employed secondary data collection and the Partial Least Square Multigroup Technique to analyze the data in order to investigate The Effect of Earnings Quality on Financial Performance in Indonesia. Discretionary accruals and earnings persistence were utilized as proxies for earnings quality. The following financial performance factors were assessed: Rate Return on Loan, Total Asset Turnover, Return on Asset, and Return on Equity. The results of the study show that Earnings Quality significantly affects Indonesian bank financial performance. Accordingly, reported results must be of a high caliber. Earnings quality is an essential indicator for investors, business stakeholders, and the impact of stock prices.

Diego *et al.* (2022) viewed human capital on organizational performance, Risk-taking habits, the caliber of earnings, and bank performance. The study employed a profit frontier methodology and several proxies, including revenues, expenses, and loan loss reserves. These three cost categories are produced by the corresponding input categories, namely the number of personnel, the loanable cash, and the fixed assets. The acquired data was examined using secondary data and an ordinary least squares model. According to the study's results, there is a connection between inefficient bank profit margins and the risk banks take when making loans to businesses. In particular, we discover that less efficient banks lend to the worst-performing companies.

Mari *et al*. (2022) evaluated the effect of human capital cost on the firm financial performance of listed banks, they looked at the ownership concentration and earnings quality of banks. Results of a cross-national analysis were used, and agency theory was embraced. Secondary data were employed, and we used OLS and random effects estimations for models one and two and logistic estimations for model three to estimate the regression models. Over the years 2001 to 2020, the study used a sample of 6,323 bank-year observations from 35 different countries. It also looked at three different proxies: earnings persistence, cash flow predictability, and earnings management. The study's findings demonstrate that ownership concentration raises the standard of banks' profitability in all three of the estimated models. Our results are consistent with the proposition that the quality of earnings increases with shareholder control over managerial

Kareem (2022) explored the effect of the practices of human resource development and organizational effectiveness in the Iraqi public universities. For analyzing the data, confirmatory factor analysis (CFA), structural equation modeling (SEM) were used. Using primary data of online questionnaire was distributed to around 342 employees, out of whom 215 complete questionnaires were obtained by adopting survey research design. This study finds that HRD practices such as talent development, training and development, organizational development and career development have a positive and significant impact on organizational effectiveness. This study has confirmed the significance of HRD practices and how they are positively related to organizational effectiveness.

Cross (2022) ascertained the effects of human capital development on organizational performance in Trust fund Pension Limited. Using primary data and descriptive research design, The study targeted a population size of 152, out of which a sample size of 110 was realized using Taro Yamane formula at 5% error to tolerance and 95 % level of confidence. The total numbers of 110 copies of the questionnaire were distributed while 80 copies were returned and the responses were analyzed with Pearson's moment correlation coefficient. The findings suggest that there was significant relationship between human capital management and organizational performance.

Onoriode (2022), evaluated the effect of human capital development cost on the firm financial performance of listed manufacturing companies in Delta State, Nigeria between the 2020 -2020 financial years. A longitudinal research design was adopted, and the data collected were analyzed using descriptive and inferential statistics. Secondary data, the panel in nature, were gathered from annual reports and audited accounts of these firms that were selected using a stratified sampling technique. The results revealed a significant influence and positive relationship between human capital investment, welfare cost, and financial performance of listed manufacturing companies. The study concluded that human capital development improves the financial performance of companies. It also, affirmed that manufacturing firms should invest in human capital development to be able to have a competitive edge over competitors to achieve wealth maximization objectives. The study recommended that the management of manufacturing firms operating in Delta state should increase their investment in human capital as an increase may positively impact their financial performance. Nigeria as a country has thirty-six (36) states and the Federal Capital

Territory. The study only covered Delta State. In application of the findings of the study may not be generalized for the entire country because of the limited sample used in the study.

John and Cajetan (2022) examined the effect of human capital investment on the return on investment of listed deposit money banks in Nigeria covering 2020 to 2022 (10 years). The independent variables were proxied by staff cost, number of staff, and employee compensation to sales, while the financial performance was proxied by return on investment. Secondary data for this study was extracted from the sampled twelve (12) listed deposit money banks annual financial reports for the period studied. Use of the panel regression technique, it was found that staff cost, employee compensation to sales, and number of staff had an insignificant effect on return on investment. It was therefore recommended that banks should institute effective investment plans on various aspects of staff training, retraining, seminars, and workshops. Also, management should intensify initiatives, have a greater understanding, and balance the cost of maintaining the staff in the long run so that employee performance can be improved in the banking sector. Thus, the management should also find initiatives for greater understanding and a balance of the cost of maintaining the staff in the sector

Zaharie *et al.* (2022) evaluate foreign assignments, human capital resources, and multinational corporations' subsidiaries' performance in Central and Eastern European (CEE) nations. Data from 295 international subsidiaries were collected for this study across five countries in Central and Eastern Europe (CEE), namely Hungary, Romania, Poland, Serbia, and the Czech Republic. premised on the networking of 12 members of the CEE International Research Team, the study employed the convenience sample method. The researchers got in touch with the local subsidiaries, and a cover letter and an online survey were sent to a union representative in each nation. The research evaluated the subsidiary's human capital assets, managerial skills, knowledge transfer, and a range of many other descriptive data (region of operation, form of entrance, number of staff, and year of creation) using the model that was developed. By determining Cronbach's alpha coefficient, the internal consistency of each scale was investigated. Based on five items that were scored using a Likert scale with four options, a mean score index was created. According to the report, the subsidiaries in the five CEE nations perform better when CEOs' talents are prioritized, and human capital resources are available. The focus on the executive team's talents and the performance of the subsidiary, it was established, are positively correlated. Due to the convenience sampling method and use of a cross-sectional sample, the study has a restriction. As a result, there is a limit to how broadly the results may be applied outside of the sample. The management was urged that it was important to comprehend the worth of various resources for the subsidiaries located in CEE nations.

Ndubuisi and Obi (2022) looked into the effect of human resource accounting on the financial performance of Nigerian deposit money banks. The basic goals are to determine if personnel costs have an effect on return on asset, return on equity, and market-to-book valuation of banks listed on the Nigerian Stock Exchange's floor from 2020 to 2021. This study used an ex-post fact analysis style. Secondary data was obtained from the Nigeria Stock Exchange's publications and were analysed using Co-efficient of correlation and Ordinary Least Square (OLS) regression analysis.

The findings of this study revealed that human resource accounting has a positive and statistically significant impact on financial performance at a 5% significance level.

William *et al.* (2022) examined the effect of Intellectual Capital (IC) on financial performance of Italian listed firms. In the study, the Valued Added Intellectual Coefficient (VAIC) was employed as a measure of IC to investigate the relationship between IC, firms' financial performance and market value. The empirical investigation was developed by using data drawn from a sample of 135 Italian listed companies for the period from 2008 to 2020 and performing Ordinary Least Squares (OLS) regression models. The findings suggested that, when taken in its aggregated form, IC exerted a positive impact on firms' financial performance measured as firms' profitability and growth in revenues as well as on market value. However, when considering its components, only Human Capital efficiency showed a positive effect on firms' financial performance while Structural Capital efficiency and Capital Employed efficiency exhibit a negative effect. Astonishingly, each of the individual IC components negatively influences firms' market value.

Saiful and Asfarawenti (2022) examined the influence of intellectual capital (IC) on bank performance measured by ROA, ROE and NIM. The study explored purposive sampling methods. 10 Islamic banks and 30 Conventional banks were selected as a sample for the study for the period 2019-2021. The study found that IC had positive effect on bank performance that measured by ROA, ROE and NIM. The study showed that HCE and CEE had positive effect on bank performance that measured by ROA, ROE and NIM.

Xu and Liu (2022) explored the value creation effect of intellectual capital on corporate performance of energy companies. The listed renewable energy companies were selected from 2020 to 2021. The study conducted an empirical research based on the Ohlson model and used quantile regression to analyze the impact of value-added intellectual coefficient (VAIC) on sustainable performance at different life cycle stages. The study also concluded that value-added human capital coefficient (VAHU) and value-added capital assets coefficient (VACA) were the most important component of intellectual capitals to economic sustainable performance at the growth stage, maturation stage, and decline stage.

Ezenyilimba *et al*.(2022) investigated whether the use of Total Quality Management practices contributed to higher quality output and lower costs. The data was collected using questionnaires and presented in a tabular format, with the t-test performed using the Statistical Package for Social Science (SPSS) version 20.0. The outcome of the result shows that the application of Total Quality Management practices has assisted in achieving improved quality output and reduced cost.

Haris *et al*. (2022) examined the impact of IC on the performance of 111 Pakistani financial institutions (PFIs) over the period 2007–2020. Two IC measures; value-added intellectual coefficient (VAIC) and modified value- added intellectual coefficient (MVAIC), were applied to examine the impact of IC on profitability and productivity. Robust results from the fixed effect regression and generalized method of momentum affirmed the inverted U-shaped relationship between IC and performance, suggesting that the increase in IC performance of PFIs increases their profitability and productivity up to a certain level, and after that, a further increase in IC performance decreases profitability and productivity. The results further suggested that human capital was the most influencing intellectual resource which produces higher intellectual efficiencies and increased the performance significantly.

Chukwu *et al.* (2022) examined the effect of human capital on the market value of banks in Nigeria, using data on three proxies of human capital related to remuneration and staff strength. Relevant financial statement data for the period 2020 to 2020 were extracted from the annual reports and accounts of fourteen banks listed on the Nigerian Stock Exchange. Results of regression of stock price on the human capital indicators showed that only one variable – the proportion of highly paid employees - had a significant effect on the market value of firms. The findings suggested that investors' confidence increased with the strength of valuable stock of human capital in the payroll of banks.

Filippo *et al*. (2022) examined the impact of intellectual capital disclosure quality in the integrated reports on firm performance. The empirical research was based on a sample of 45 integrated reports in Croatia from 2021-2020 using multiple regression analysis. The results confirmed the existence of a significant and positive association between the intellectual disclosure quality and the firm performance. The justification or otherwise for the place of knowledge also known as intellectual capital in driving the earnings and indeed other corporate value indices of firms has constituted a challenging academic puzzle in recent years , that intellectual capital provides a platform through which firms enjoy competitive advantage, well and above their contemporaries.

Olalekan and Adeyinka (2020), examined the relationship between Human Resource Accounting and the Profitability of quoted firms in Nigeria. The study used staff remuneration, as proxy for Human Resource Accounting; while net operating profit and return on capital employed were used as proxies for profitability. The study used secondary data from audited financial reports of nine (9) service firms quoted on the Nigerian Stock Exchange (NSE) from 2013 -2019. The data collected was analyzed using ordinary least square (OLS) and Pearson Product moment correlation coefficient. r, with the aid of SPSS version 20. The findings revealed that there is no significant relationship between Human Resource Accounting and the profitability of quoted firm.

Prosvirkina (2020), in his study human resources effectiveness in the Russian banking industry. The researcher made use of secondary data. Based on the data available in financial statements of banks, published by the Central Bank of the Russian Federation, several indicators were calculated, including return on investment in human capital (HCROI), return on assets (ROA), return on equity (ROE) and productivity. The research has found statistically significant correlation between HCROI and all selected organizational performance indicators of banks in Russia. This empirical finding demonstrates that HR effectiveness influences the performance of banks in Russia.

3. Methodology

3.1 Research Design, Population of the Study and Sample Size

In this particular study, a survey research design was chosen due to the impracticality of studying the entire population, making a survey the most appropriate approach within this research context. In the context of this study, the population consists of 2073 employees working in deposit money banks located in South-South Nigeria. The sample size was determined using Taro Yamen's formula, a method previously utilized by Zigarmi et al. (2021), as outlined hereunder.

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = sample size sought for; e = level of significance; N = population

Hence;
n = N 1+ N (e) ^{2}, N = 2073, e = level of significant of 0.05
n = 2073/ 1+ 2073$(0.05)^2$
n = 2073/ 1+ 2073(0.0025)
= 2073 /1+5.1825
= 2073/ 6.1825
= 335.30 =335

3.2 Instrument of Data Collection and Its Validity and Reliability

This research predominantly relied on primary data sources for data collection. The primary source involved administering questionnaire to the staff of the commercial banks in South-South Nigeria. The distribution and collection of this questionnaire were conducted face-to-face. Validation from experts confirmed that the instrument's items sufficiently gathered the necessary data for hypothesis testing. The research instrument establishes a cronbach alpha of 0.70, which affirm the reliability of the instrument.

3.3 Method of Data Analysis and Model Specification

In accordance with objectives of the study and the expectation of the researcher, the empirical models of this study were stated as follows:

$ROA_{ij}=\beta_o+\beta_1 EEI+\beta_2 SWI+\beta_3 EHI+e_t$ ***Equation (3.1)***

Where: β_o=Intercept of FP, β_1 - β_3 = Coefficient of each of the independent variables and e_t = Random error terms. In this study, the dependent variable was regarded as financial performance of the listed deposit money banks in Nigeria why the independent variable was observed to be human capital investment (employees education investment, employee health investment and staff welfare investments are the proxies)

3.4 Decision Rule

The acceptance/rejection criterion was that, if the p-value is greater than the alpha value of 0.05, we fail to reject the null hypothesis (Ho) and accept the alternate hypothesis (H_1). Our confidence interval was set at the 0.05 (two tailed) level of significance to test the statistical significance of the data in this study.

4.1 Data Analysis

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EEI	302	20.00	25.00	23.1887	1.24458
SWI	302	19.00	25.00	23.2483	1.20129
EHI	302	19.00	25.00	23.1887	1.24725
ROA	302	20.00	25.00	23.4073	1.17406
Valid N (listwise)	302				

From the above table, employees' educational investment, with a mean of 23.1887 and a standard deviation of 1.24458, indicates that the company spends an average of approximately 23.19 units on educational expenses for its employees, with a relatively low level of variability around this mean value. This suggests that the company invests consistently in educational programs for its workforce, maintaining a moderate level of expenditure without significant fluctuations. Staff welfare investment indicates the expenses related to employee well-being. Staff welfare investment has a mean of 23.2483 and a standard deviation of 1.20129, highlights a similar pattern of expenditure consistency. The company allocates around 23.25 units towards staff welfare, with a slightly lower variability compared to educational costs. This suggests a commitment to maintaining a stable and supportive work environment for employees, reflected in the steady allocation of resources towards their welfare. Employee health investment indicates mirroring the pattern of the previous variables, demonstrates a mean of 23.1887 and a standard deviation of 1.24725. This indicates a consistent investment in maintaining employee health, with the company spending around 23.19 units on healthcare initiatives per employee and exhibiting a moderate level of variability around this expenditure. Return on Assets (ROA) measures a company's ability to generate profit from its assets. Return on assets has a mean of 23.4073 and a standard deviation of 1.17406, suggests a relatively high return on the company's assets, with an average value of approximately 23.41 units. The variability around this mean is relatively low, indicating a stable performance in asset utilization, possibly reflecting effective management practices or efficient resource allocation. These descriptive statistics provide insights into the central tendency, variability, and range of each variable. Consideration of these measures helps in understanding the distribution and characteristics of the data, enabling more informed analysis and decision-making.

Table 4.2 Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.449[a]	.202	.194	1.08608	2.109

a. Predictors: (Constant), EHI, EEI, SWI
b. Dependent Variable: ROA

The model summary for return on assets indicates that the predictors, including employee health investment, employees' educational investment, and staff welfare investment, collectively account for 20.2% of the variance observed in return on assets. This suggests that these predictors have a moderate level of explanatory power in determining the company's return on assets. The R-squared value of 0.202 indicates that approximately 20.2% of the variability in return on assets can be explained by variations in these predictor variables. The adjusted R-squared value of 0.194 considers the number of predictors in the model, providing a slightly more conservative estimate of the model's explanatory power. The standard error of the estimate of 1.08608 reflects the average deviation of the observed return on assets values from the predicted values, indicating the accuracy of the model's predictions. The Durbin-Watson statistic of 2.109 suggests that there may be some autocorrelation present in the model's residuals, indicating potential patterns or trends that the model does not capture. Overall, while the model demonstrates some ability to explain variations in return on assets using the included predictors, there may be other factors influencing return on assets that are not accounted for in

Table 4.3 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.847	3	29.616	25.107	.000[b]
	Residual	351.514	298	1.180		
	Total	440.361	301			

a. Dependent Variable: ROA
b. Predictors: (Constant), EHI, EEI, SWI

The ANOVA results for the return on assets regression model show a highly significant regression, with a p-value of .000, indicating that the predictors, which include employee health investment, employees' educational investment, and staff welfare investment, collectively contribute significantly to explaining the variance in return on assets. The sum of squares for the regression model is 88.847, considerably larger than the sum of squares for the residuals (351.514), suggesting that the model explains a substantial portion of the total variance observed in return on assets. The F-statistic of 25.107 further supports the significance of the regression model, indicating that the variance explained by the predictors is significantly greater than what would be expected by chance. The mean square value of 29.616 represents the average variance explained by each predictor, highlighting their individual contributions to the model. With three degrees of freedom, the model demonstrates sufficient flexibility in accommodating the variability in the dependent variable, return on assets. Overall, these results affirm the robustness of the regression model in effectively capturing and explaining the effect of employee health investment, employees' educational investment, staff welfare investment, and return on assets.

Table 4.4 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.257	1.588		8.348	.000
	EEI	.429	.052	.442	8.256	.000
	SWI	-.152	.069	-.151	-2.201	.028
	EHI	.157	.065	.162	2.403	.017

a. Dependent Variable: ROA
SOURCE: SPSS OUTPUT V21

In the regression model for return on assets, the constant term has a coefficient of 13.257, indicating the expected return on assets when all predictor variables are zero. This coefficient is statistically significant with a p-value of .000, suggesting that even in the absence of the predictor variables; there is a non-zero baseline return on assets. The coefficient for employees' educational investment is .429, indicating that for every unit increase in educational cost, there is an associated increase of .429 units in return on assets. This coefficient is highly significant ($p < .0001$), suggesting that investments in employee education have a significant impact on return on assets. Conversely, the coefficient for staff welfare investment is -.152, indicating that for every unit increase in welfare cost, there is an associated decrease of .152 units in return on assets. Although this coefficient is statistically significant ($p = .028$), its negative sign suggests that higher expenditure on staff welfare may be associated with slightly lower return on assets. Lastly, the coefficient for employee health investment is .157, indicating a positive impact on return on assets for every unit increase in health cost. This coefficient is statistically significant ($p = .017$), underscoring the importance of investing in employee health for enhancing return on assets.

4.2 Test of Hypotheses

The following null research hypotheses were tested as follows:
Ho_1: There is no significant effect of employees' educational investment and return on assets of deposit money banks in Nigeria.

Table 4.5 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
EEI	.429	.052	.442	8.256	.000

a. Dependent Variable: ROA

From the result in the table 4.5, the t-statistics shows that there is a positive and significant effect of employees' educational investment and return on assets. The t-statistics 8.256 confirms the magnitude and strength of this effect and it is statistically significant at p 0.000<0.05. The t-statistic represents a high strength of the variables. Therefore, based on empirical findings the null hypothesis earlier stated is hereby rejected and the alternate accepted. Thus, there is a positive and significant effect of employees' educational investment and return on assets of deposit money banks in Nigeria.

Ho2: There is no significant effect of staff welfare investment and return on assets of deposit money banks in Nigeria.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
SWI	-.152	.069	-.151	-2.201	.028

a. Dependent Variable: ROA

From the result in the table above, the t-statistics shows that there is a positive and significant effect of staff welfare investment and return on assets. The t-statistics -2.201 confirms the magnitude and strength of this effect and it is statistically significant at $p = 0.028 < 0.05$. The t-statistic represents a high negative strength of the variables. Therefore, based on empirical findings the null hypothesis earlier stated is hereby rejected and the alternate accepted. Thus, there is a negative but significant effect of staff welfare investment and return on assets of deposit money banks in Nigeria.

Ho3: There is no significant effect of employee health investment and return on assets of deposit money banks in Nigeria.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
EHI	.157	.065	.162	2.403	.017

a. Dependent Variable: ROA

From the result in the above table, the t-statistics shows that there is a positive and significant effect of employee health investment and return on assets. The t-statistics 2.403 confirms the magnitude and strength of this effect and it is statistically significant at p $0.017 < 0.05$. The t-statistic represents a high strength of the variables. Therefore, based on empirical findings the null hypothesis earlier stated is hereby rejected and the alternate accepted. Thus, there is a positive and significant effect of employee health investment and return on assets of deposit money banks in Nigeria.

4.3 Discussion of Findings

There is positive and significant effect of employees' educational investment and return on assets of deposit money banks in Nigeria: The findings of a positive and significant effect of employees' educational investment and return on assets in Nigerian deposit money banks underscores the potential impact of investing in employees' education on overall organizational performance. This result suggests that as deposit money banks allocate resources to enhance the educational development of their workforce, it contributes positively to their ability to generate returns on assets. Such a correlation may signify that a well-educated and skilled workforce could lead to increased productivity, innovation, and efficiency within the banking sector, ultimately translating into improved financial outcomes. This insight may have implications for strategic decision-making within these banks, encouraging a continued focus on human capital development as a means to enhance organizational success and competitiveness in the Nigerian banking industry. The research aligned with Akintoye's (2019) investigation into the Influence of intellectual capital on the financial performance of banks in Tanzania.

There is negative and significant effect of staff welfare investment and return on assets of deposit money banks in Nigeria: This relationship suggests that as deposit money banks allocate more resources towards staff welfare investments, their return on assets tends to decrease significantly. Such findings underscore the intricate balance between operational expenses and financial performance within the banking sector, emphasizing the need for strategic decision-making regarding resource allocation. The negative correlation implies that while investments in staff welfare may enhance employee satisfaction and retention, thereby potentially fostering long-term organizational stability and growth, excessive expenditure in this area could diminish profitability and overall financial health. Thus, optimizing staff welfare expenditure to achieve a balance between employee well-being and financial efficiency emerges as a crucial consideration for deposit money banks in Nigeria seeking to maximize their returns on assets while maintaining a supportive and sustainable work environment. This insight highlights the complexity of managing human resources within the context of financial institutions, where prudent allocation of resources can significantly influence both operational effectiveness and bottom-line performance.

There is positive and significant effect of employee health investment and return on assets of deposit money banks in Nigeria: The affirmation of a positive and significant effect of employee health investment and return on assets among deposit money banks in Nigeria suggests that increased investment in the health and well-being of employees is associated with higher returns on assets, underscoring the potential link between a focus on employee health and improved financial performance within these banking institutions. This finding emphasizes the importance of recognizing the strategic impact of employee health initiatives on the financial outcomes of deposit money banks in Nigeria. The positive correlation implies that as these banks allocate resources to support and enhance the health of their workforce, it contributes positively to their ability to generate returns on assets. Beyond the moral imperative of prioritizing employee well-being, the results suggest a tangible economic benefit, as a healthier and more resilient workforce may contribute to increased productivity, reduced absenteeism, and potentially lower healthcare costs, all of which can positively influence the banks' overall financial performance. In a sector where the expertise and efficiency of the workforce are paramount, the observed positive effect of employee health investment and return on assets suggests that investments in health-related programs and benefits may serve as a strategic lever for enhancing organizational competitiveness. This insight encourages deposit money banks in Nigeria to view employee health not only as a welfare consideration but also as a valuable asset that can contribute to the banks' sustained financial success. The research findings were in accordance with Ignacio and Miguel's (2009) examination of Human capital and sustainable competitive advantage: an assessment of the connection between training and performance.

5.1 Conclusion and Recommendations

It could be concluded that all the predictor variables have significant effect on the criterion variables, meaning there employees' educational investment, staff welfare investment and employees health investments have significant association with return on assets of deposit money banks in Nigeria. Based on the analysis and the conclusion drawn, the following recommendations can be made:

1. Nigerian deposit money banks should continue to prioritize and strategically invest in educational initiatives of their workforce, as such investments are evidently associated with improved financial performance, thereby fostering a knowledgeable and skilled workforce that positively impacts the banks' operational efficiency and competitiveness in the dynamic banking industry.
2. Besides, they should continue and potentially enhance their commitment to staff welfare initiatives, recognizing that a supportive and well-cared-for workforce contributes positively to operational efficiency and, consequently, to the overall financial success and competitiveness of the banks within the dynamic landscape of the banking industry.
3. Lastly, the banks should carefully reassess and potentially reallocate their investments in employee health initiatives, considering alternative strategies or focusing on comprehensive well-being programs that align more closely with the financial metrics of return on assets, ensuring a more targeted and impactful approach to achieving optimal financial performance.

Conflict of Interest: The authors do declare that there is no conflict of interest in this manuscript.

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