

HUMAN CAPITAL COSTS AND FINANCIAL PERFORMANCE OF LISTED HEALTHCARE FIRMS IN NIGERIA

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ABSTRACT

Users of accounting report require financial information to take decisions. In the past, financial accounting has been criticized for lacking rules based on a clear theoretical framework. In addition, the accounting rules developed have been criticized for being too loose, lacking consistency and failing to portray economic reality. Failure of professional accountants and academics to recognize Human Capital Costs (HCC) in the financial statement as an important factor in the determination of performances of firms is one of the drawbacks mentioned in the literature. To that end, this study investigated the effect of human capital costs on financial performance of listed healthcare firms in Nigeria. The specific objectives were to determine the effect of training and development costs, employee costs and health and safety costs on return on assets of listed healthcare firms in Nigeria. The Researchers used ex-post facto research design. Targeted population of this study comprised of all the seven listed healthcare firms in Nigeria which were sampled to five (5) using purposive (Judgmental) sampling technique. Secondary data were used and it was sourced from annual reports and statement of accounts of the selected firms between 2012 and 2021. Descriptive Statistics, Unit Root Test and Ordinary Least Square Regression were employed with the aid of Microsoft Excel, SPSS 25 and E-View 12. The result of the study showed that training and development cost has negative and significant effect on return on assets. Furthermore, the result indicated that employee costs has positive and significant effect on return on assets. It was also revealed that health and safety costs has negative and insignificant effect on return on assets of listed healthcare firms in Nigeria. The study generally concluded that, there is a negative and significant effect of human capital costs on financial performance of listed healthcare firms in Nigeria under the period of the study between 2012 and 2021. It was recommended amongst others that companies should adopt other human capital costs related expenses as strategy for attracting and retaining high earnings because this study indicated that training and development and employees costs has significant effect on financial performance in term of return on assets.

Keyword: Human Capital Costs, training and development cost, employee cost, health and safety cost and return on assets.

INTRODUCTION

Over the years firms had focused more on production based economy with the notion that success of an organization was based on the output of production. Interestingly, there has been a shift in the economy since the 21st century from production based to what is now commonly called "knowledge based economy". These changes have been a clear result of globalization, sector deregulations, evolving business environment and characterized by increased development of technology. In the knowledge based economy, human capital became a key player. Human capital is one of the major factors of production and had been generally referred to as all human efforts (skilled, semi-skilled and unskilled) used in the process of production.

Human capital is a term which refers to the set of individuals who make up the workforce of an organization or a business entity (Edom & Adanma, 2015). According to Nwauzor and Longjohn (2020), human capital comprise of the energies, skills, talents and knowledge of people which can be potentially applied to the production of goods or rendering of useful services. The driving force of an organization is the human force. The success or failure of any organization is directly related to how human resource are able to effectively and efficiently manage and organize other factors of production. Basically, when we talk of human capital (also known as human Resource or human assets) it refers to the human knowledge, and their inner capabilities and creativity. The development of technology cannot be fully utilized without human knowledge and skill. The capabilities of the human capital in relation to the needs of the organization should be improved by creating a climate in which the human knowledge, skill, capabilities and creativity can be developed. How to develop human capital and put it to optimum use is the challenge faced by the present day corporate sector. It involves measuring costs incurred by the organizations to recruit, select, hire, train and develop employees as well as of appraising their economic value to the organization.

Financial performance has received important consideration from scholars particularly in accounting, finance and management (Imeokparia et al., 2021). Generally, performance could be regarded as one of the key determinant factors that are widely used in measuring the success or failure of firms. It is imperative to note that one of the most influential and an indispensable component that drives firms performance is the human resource component. Mwangi and Murigu (2015) defined financial performance as a measure of an entity's income, returns and increase in corporate value which is mirrored by the increase in price of the company's shares as can be compared with other companies across the sector or to relate the performance of businesses as a whole. According to Obara and Efeeloo (2017) financial performance of companies can be measured by use of accounting information or stock market values in a financial accounting practices context. When accounting information is used, accounting ratios are employed. The common accounting ratios used to measure profitability are: return on assets (ROA), return on equity (ROE), net profit margin (NPM) and return on capital employed (ROCE). Obara and Efeeloo (2017) stated that measure profitability ratios as return on assets (ROA) shows the profit due to the use of assets, return on equity (ROE) represents the profit which occurs due to equity and net profit margin (NPM) ratio shows the profit earned due to the sale of one unit of final product.

The negligence towards developing human capital pose a threat on the market value thereby reducing the investors' interest. It is noted that companies that engage in disclosure of information on human capital accounting noticed that there has been an oversight of a very important asset in the financial statements. As a result of this development Ofoegbu et al. (2013), Adebawojo et al. (2015), Omodero and Ihendinihu (2016), Okeke (2016), Onyinyechi and Ihendinihu (2017), Smriti and Das (2018), Khan and Ali (2018), Xu et al (2020), Akinlade and Adegbie (2020), Nwauzor and Longjohn (2020), Olaoye and Afolalu (2020), Obulor and Ohaka (2020), Ovechkin et al(2021), Newstyle and Major (2022) etc. has conducted a research on the subject matter. Consequent upon the above assertions, this study was carried out to evaluate the effect of human capital cost on financial performance of listed healthcare firms in Nigeria.

Statement of the Problem

Users of accounting report require financial information on which decisions will be based. In the past, financial accounting was criticized for lack of rules based on clear theoretical framework. In addition, the accounting rules developed have been criticized for being too loose, or for lacking

consistency and for failing to portray economic reality. For instance, failure of professional accountants and academics to recognize Human Capital Accounting (HCA) in the financial statement as an important indicator in the determination of performances of firms is a major drawback. Another challenge is that there seems to be no universal approach to reporting on human capital costs, thereby making it difficult for meaningful comparisons. Based on the absence of a universal approach, the companies that are proactive enough to measure do it their own way for fear that it could lead to negative interpretation from various stakeholders. In the healthcare sector where health and safety of workers is key, it was discovered that firms do not capture health and safety costs. This is a useful proxy for human resource accounting because health is wealth and it is only a healthy worker that can maximize output for optimal performance. A number of empirical studies have consequently looked into the relationship between human capital costs and financial performance. Studies in this area include the works of Karimi et al. (2012), Ijeoma and Aronu (2013), Atube and Olufawoye (2014), Adebawojo et al. (2015), Onyinyechi and Ihendinihu (2017), Asika et al.(2017), Ofurum and Adeola (2018), Nwaiwu and Amos (2018), Huda et al. (2020), Asamu et al. (2020), Obulor and Ohaka (2020) and Newstyle and Major (2022). These empirical studies argued that there is a negative relationship between human capital costs and financial performance. Obulor and Ohaka (2020) found that human capital cost has significant positive effect on financial performance of quoted manufacturing firms in Nigeria. Newstyle and Major (2022) contradicted most of the earlier evidence on the effect of human capital accounting and financial performance. Their study concluded that there is insignificant relationship between human capital accounting and financial performance of listed oil and gas companies in Nigeria under Pre – Covid-19 era and Post Covid-19 era. Above all, the contexts of these empirical studies were different in terms of scope, context, time frame, methodology and the firm used. To the best of our knowledge no studies have been conducted on human capital cost using proxies like employee costs, training and development costs, and health and safety costs on return on asset. Hence there is a clear gap in existing literature. Therefore, this study seeks to investigate the effect of human capital costs on financial performance of listed healthcare firms in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Framework

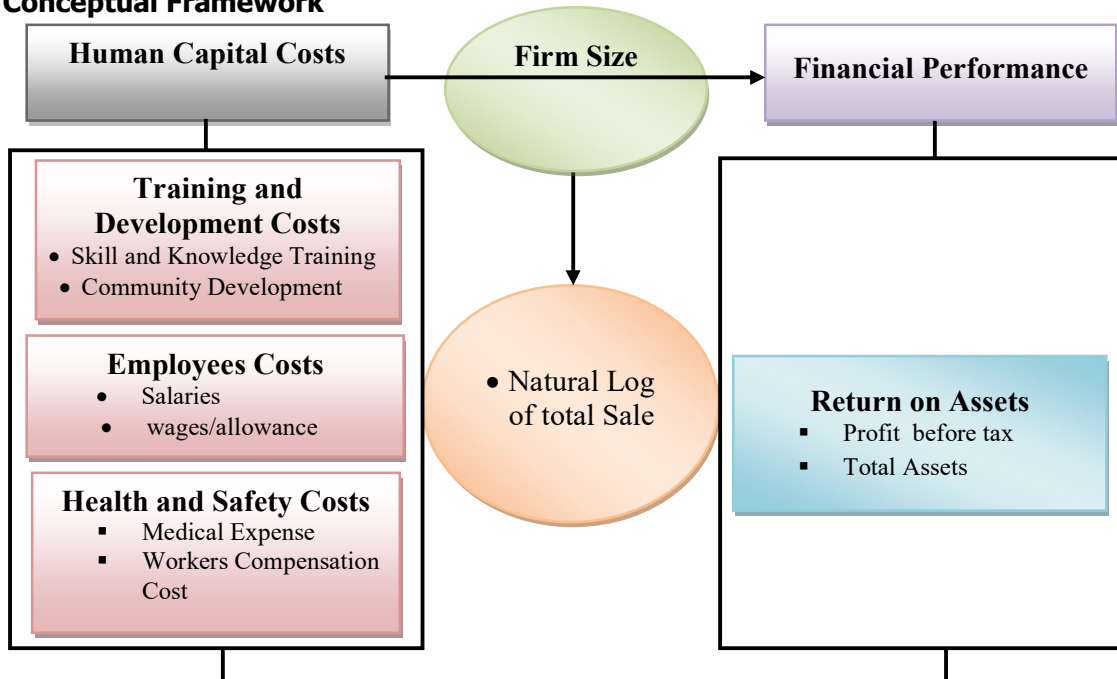


Figure 1.1 Conceptual framework showing the dimensions and measures of human capital costs and financial performance of listed healthcare firms in Nigeria

Sources: Ofurum and Adeola(2018), Obulor and Ohaka (2020), Balogun et al., (2020), Onyekwelu and Ironkwe(2021) and Newstyle and Major (2022)

Human Capital Cost: Human capital cost is one of the three basic components of intellectual capital (apart from material assets which includes the entire value of the enterprise) as stated in corporate finance. Human capital is the value that employees of the company provide thanks to their skills, knowledge and experience (Newstyle & Major, 2022). It is the combined human ability of the organization to solve business problems. Human capital is inseparable from man and cannot be the property of an organization. That is why human capital leaves the organization when people leave. The concept of human capital cost accounting has been defined in various ways but the basic feature of the system remains the same in all the definitions. Human capital is the ability of human to solve problem. Bontis et al. (2001) defined human capital as the skills, knowledge and experience of individual employees within an organization. Baker (2011) also believes that human assets of an organization include skills, expertise, problem-solving ability, and leadership practices. According to Xu et al (2020), human capital as the basis of intellectual capital includes the factors (such as knowledge, skills, capabilities and attitudes of employees) leading to improvement of client's expected performance and company's profitability. In fact, they believe that each employee has a type of skills and knowledge which are an integral part of that employee's mind; if the knowledge and skills are not activated, the employee cannot be used to create value for organization. Newstyle and Major (2022) noted that human capital cost comprises of the talents, skills and knowledge of a company's workforce. In addition to the above, Weatherly (2003) sees the human capital accounting of an organization as the collective sum of the attributes, life experience, knowledge, inventiveness, energy, and enthusiasm that its people choose to invest in their work". Similarly, Yusuf (2013) pointed out that human capital cost 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 accounting is a component of Intellectual Capital. Ovechkin et al (2021) described human capital cost as the complete skills, creative abilities, knowledge, talent, attitudes and belief of an organization workforce as well as values, attitude and belief of the single personality involved.

Training and Development Costs: Smriti and Das (2018) defined training as a set of activities which react to present needs and is focused on the instructor and contrast with learning as a process that focuses on developing individual and organizational potential and building capabilities for the future. Training is essentially a management tool derived to foster, develop and increase skills and knowledge base of employees and also employers with a view to ultimately increasing both the employees and organizations performance in terms of efficiency, effectiveness and overall productivity. Education and training of an employee are all geared towards making an employee skilled enough to handle complex jobs. Across the world, organizations have sought to rely on improved skills, knowledge, and capability of the talented workforce to create competitive advantage. To develop the desirable skills, knowledge, and capability of employee and position them to perform their responsibilities, managers in charge of human resource training design different training programs (Lakra, 2016). Such training programs not only target to improve the familiarity of employees about their responsibilities, but it also helps to encourage employees to develop more commitment towards their job. Huang and

Jaao (2016) explained that organizations design training programs to prepare their employees to perform their jobs correctly and according to the laid down standards. Organizational personnel design training sessions to ensure that they optimize the potentials of employees. Khan and Baloch (2017) opined that majority of organizations prefer to invest in different programs that create new skills through long-term planning. This is to enable them adapt to any current and future uncertainties. Therefore, they ensure that they improve the performance of their employees through superior levels of commitments and motivation. It is of great significance to note that employees are the backbone of any organization. No matter how big or small the organization is, employees are the true determinants of how successful or how incompetent an organization will turn out to be. Therefore, having an adequately trained workforce is vital to ensure that the workplace has the right employees that have been professionally trained and qualified to do their tasks properly.

Health and Safety Costs: The implementation and review of any safety programme becomes successful with the involvement of top level or strategic level management. There are substantial benefits to adopt health and safety costs as part of human capital accounting. Such benefits include; improvements to individual employees' health and well-being; increased productivity; and reduced safety risks and expenses. Yet many employers remain reluctant to shift from traditional safety initiatives and spending. This paper aims to demonstrate whether investing in an integrated health and safety cost will improve financial performance or not. Muchemedzi and Charamba (2006) characterized occupational safety and health "as a science concerned with wellbeing in connection with job setting" and the wellbeing and security of all workers in a working environments is firmly connected to profitability. Gbadago and Honyenuga (2017) found that employee health and safety has significant effect on firm performance. Employee health and safety can be measured using the cost involved in the provision of health care facilities or the allowances that are meant to take care of health and safety issue of workers.

Financial Performance: Financial performance is a parameter used by firms to measure the milestones on the achievement of strategic financial objectives (Kang & Kinyua, 2016). Financial performance is a periodic achievements in monetary terms expressed in form of returns and losses, and linked to firm's financial statements. The productivity, profitability and market premium are three perspectives to evaluate financial performance (Almajali et al., 2012). Yahaya and Lamidi (2015) believed that financial performance is an instrumental element, especially to profit-oriented firms as it determines its competitiveness and financial sustainability which in return influence its capability to meet its financial obligations. They further described financial performance as a measure of effectiveness and efficiency in the utilization of obtainable resources in the core operations of a firm to generate revenue. Okpolosa (2018) posited that performance measurement is very effective in company management process and enhancement of management proficiency. Financial performance predominantly shows the sector of a business outcome as well as results, showing the overall financial health condition of the business sector over a particular time period (Naz et al., 2016).

Return on Assets: Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings. Return on assets is displayed as a percentage (Bashari & Mohammed, 2019). Return on Assets (ROA) is an indicator of how well a company utilizes its assets, by determining how profitable a company is relative to its total assets, ROA is best used when comparing similar companies or comparing a company to its previous performance, ROA takes into account a company's debt, unlike other metrics, such as return on equity (ROE). Return on assets (ROA), in basic terms, explains what earnings were

generated from invested capital (assets). ROA for public companies can be different from one company to another dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous ROA figure or against a similar company's ROA. The ROA figure gives investors an idea of how effective the company is in converting the money it invests into net income. The higher the ROA number, the better, because the company is earning more money on less investment. ROA is most useful for comparing companies in the same industry, as different industries use assets differently (Bashari & Mohammed, 2019). Murekefu and Ouma (2012) stated that return on assets is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources. It is commonly defined as net income divided by total assets. Net income is derived from the income statement of the company and is the profit before taxes.

Theoretical Framework

The study was anchored on resource dependency theory due to its accuracy concept to human capital. **Resource Dependency Theory:** This theory was developed by Pfeffer (1972) to explain the composition of the board of directors that provides the firm with resources that promote financial performance. Newstyle and Major (2022) suggested that training and development is used to improve corporate performance using human capital. Hence, the training and development of executive directors and employment of non-executive directors with expertise and reputation can be utilized in corporate governance for the financial performance of firms. This theory posits that board of directors as internal corporate governance mechanism is not only established to monitor managers but also to provide critical resources needed by the firm to maximize financial performance. Boshnak (2021) argued that resource dependency theory provides a significant interconnection between the firm and valuable resources that are important for the growth and survival of the organization. The author further suggested that the theory provides that board members conduct controlling roles and provides basic tools such as skills, experiences and expertise needed to enhance financial performance and maximization of shareholders wealth. Hence, board with several members with various skills, expertise and experiences enhance corporate value and firm performance (Boshnak, 2021). Resource based theory of human capital (HC) is important for every small and big firm in developed as well as developing countries. This theory is used to explain the relationship between human capital cost and market value of companies. Based upon this theory, we agreed that Human Capital Cost (HCC) contributes significantly towards market value of companies. This agreement is consistent with Zeghal and Maaloul (2010) who stated that firms can yield extra returns and build a competitive advantage from the effective use of its strategic resources such as Human Capital assets.

Empirical Review

The review of empirical studies guides researchers for getting better understanding of objectives used, methodology used, limitations of various available estimation procedures and data base and lucid interpretation and reconciliation of the conflicting results (Newstyle & Major, 2022). Prior studies have analyzed human capital cost and financial performance in different perspective. Hence below are some of the prior studies that are related to the subject matter.

Table 1 Summary of Empirical Review

S/N	Author & Year of Study	Topic	Methodology	Key findings	Individual Research Gap
1	Nkechi and Nath (2022)	The effect of intellectual capital on corporate	Ex-post facto research design.	The study revealed a significant positive effect of human capital on	The study was conducted in selected

		performance of selected consumer goods manufacturing companies in Nigeria	The Fixed effect panel least square regression analysis was employed	returns on assets. The findings also revealed a significant effect of structural capital on returns on assets which was used to proxy corporate performance.	consumer goods manufacturing companies in Nigeria while the current study is conducted in healthcare sector in Nigeria
2	Newstyle and Major (2022)	The relationship between pre -post human capital accounting and financial performance of listed oil and gas companies in Nigeria	The study adopted ex-post facto research design. The study used secondary data employing Descriptive Statistics and Multiple Linear Regression analysis of panel data with aid of E - View 12	The study result showed that earning per shares under Pre - Covid19 era and Post Covid19 era had insignificant relationship with employee cost, training/development cost and value added intellectual coefficient of listed oil and gas companies in Nigeria	The study was conducted using listed oil and gas companies in Nigeria while the current study is conducted in healthcare sector in Nigeria
3	Hamzah et al (2022)	The effect of human capital on the relationship between enterprise risk management and organization performance	The study employed descriptive research design and primary sourced of data collection was adopted, Structural Equation Modeling (SEM) method of data analysis adopted	The study contributes to the ERM literature by providing empirical evidence on the relationship of ERM, human capital, and organizational performance	The study was based on primary data while the current study employed secondary sourced of data collection
4	Rufus et al (2022)	The effect of intellectual capital on organisational performance of financial companies quoted in Nigeria	The study adopted ex-post facto research design, Descriptive and inferential statistics using regression analyses were employed	The study result indicated that intellectual capital impacts positively on organizational performance, but firm size do not play a significant role.	The study did not focus on a particular sector, it was conducted on companies across all sector in Nigeria while the current study focused on healthcare sector in Nigeria
5	Lin et al (2022)	The factors influencing intelligent capital on enterprise performance.	The study used GMM estimation method	Findings of the study indicated that human capital, innovation capital, process capital, and	The study was conducted in listed companies in the Taiwan

		Dynamic panel data of listed companies in the Taiwan electronics industry		customer capital significantly improve enterprise performance through the mechanism of organization all earning.	electronics industry while the current study is conducted in healthcare sector in Nigeria
6	Israel et al (2022)	The influence of expenditure in human resource (EHR) on financial performance of quoted manufacturing companies in Nigeria	Causal comparative and descriptive research designs and multivariate econometric regression demonstrated was adopted	Result showed that SWA demonstrated significant positive unstandardized beta coefficient contribution while HRE indicated insignificant but positive unstandardized beta coefficient.	The study was conducted on quoted manufacturing companies on Nigeria while the current study is conducted in healthcare sector in Nigeria
7	Irmansyah and Andesto (2022)	The effect of intellectual capital on financial performance: Case study of pharmaceutical industry sector companies in Indonesia	The study used purposive sampling techniques as sample selection. The research analysis method used the Regression Data Panel with the EView 11 Statistics Program.	The study showed that Human Capital has a significant influence on Financial Performance (ROA). Furthermore, Capital Employed and Structural Capital have no significant effect on Financial Performance (ROA).	The study was conducted on pharmaceutical industry sector companies on Indonesia while the current study is conducted on healthcare sector in Nigeria
8	Adesanmi (2021)	The effect of human capital accounting on performance measures of listed non-financial companies in Nigeria	The study adopted ex-post facto research design. Data collected were analyzed using descriptive statistics and panel regression analysis.	The results of the study revealed that human capital efficiency, capital employed efficiency, firm size had significant positive effect on return on equity while human capital efficiency, structural capital efficiency, capital employed efficiency and leverage had a significant effect on return on assets.	The study was conducted on listed non-financial companies on Nigeria while the current study is conducted on healthcare sector in Nigeria
9	Duho and Agomor (2021)	The nexus between human capital accounting and the performance of listed non-financial firms in West Africa	Panel-corrected standard error regression was used	The findings indicated that structural capital efficiency is a major driver of profitability while human capital efficiency and capital employed efficiency is found not to have a significant impact on profitability among nonfinancial firms.	The study was conducted on listed non-financial firms in West while the current study is conducted on healthcare sector in Nigeria
	Xiao-Bing	The impact of	The study	The study result indicated	The study was

10	et al (2021)	intellectual capital on financial performance of pharmaceutical industries in Vietnamese	adopted multiple regression	that VAIC and HCE show beneficial impacts on financial performance measures, ROA, and ROE. However, SCE shows adverse and beneficial implications on ROA and ROE, respectively. In terms of industry comparison, VAIC has positive effects on ROA and ROE among the firms from financial industry, whereas it has no effect in the firms from pharmaceutical industry.	conducted on pharmaceutical industries in Vietnamese while the current study is conducted on healthcare sector in Nigeria
11	Onyeukwu et al (2021)	The link between human resource accounting and financial performance of microfinance banks in Nigeria	Ex post facto research design was used. The Simple linear regression analysis method was used to analyze the data generated	Findings from the study for both microfinance banks revealed that personnel cost have significant effect on both net profit margin and return on equity with only return on assets having insignificant relationship. Further findings using only NPFMFB extended to 2019 indicate that personnel cost has no significant effect on all the explained variables.	The study was conducted on microfinance banks in Nigeria while the current study is conducted on healthcare sector in Nigeria

Source: *Researcher Compilation (2022)*

Gap in Empirical Review

Prior research has studied the relationship between human capital costs and financial performance. Based on the empirical studies reviewed in term of concepts, years, scope, methodology adopted, variable employed, findings, conclusion and recommendations, the following gap were identified: (1) to the best of our knowledge, none of the prior studies conducted a study on the relationship between human capital costs and financial performance of listed healthcare firms in Nigeria, (2) to the best of our knowledge, none of the prior studies have employed firm size in term of total sale as moderating variable in correlating human capital costs and financial performance of listed healthcare firms in Nigeria, (3) to the best of our knowledge, none of the prior studies have constructed conceptual framework in chapter one and operational framework in chapter two in carried out a study on human capital cost and financial performance of listed healthcare firms in Nigeria, (4) to the best of our knowledge none of the previous studies used the time frame of 2012 to 2021 on the listed healthcare firms in Nigeria, (5) None of the previous studies conducted a study using five out of the seven listed healthcare firms in Nigeria used in this study. Therefore, this study is designed to bridge this knowledge gap that existed in the literature of human capital costs and financial performance of listed healthcare firms in Nigeria.

METHODOLOGY

Research Design: In line with the problem and objective of this study, the appropriate research design for this study is ex-post facto and correlational research design. Ex-post facto research design is used to cover investigations that are done retrospectively (after the effect has occurred) to identify possible cause-and-effect relations between the variables under investigation through observations of existing conditions and inquisitively searching back historically for the causal factors.

Population of the Study/Sample Size and Sampling Techniques: The population of this study consists of seven (7) healthcare firms listed on the floor of the Nigerian Exchange Group as at 31st December 2021. Table 2 presents a comprehensive list of the population members.

Table 2 Listed Healthcare firms in Nigeria

S/N	COMPANIES NAME
1	EKOCORP PLC
2	FIDSON HEALTHCARE PLC
3	GLAXO SMITHKLINE CONSUMER NIGERIA PLC
4	MAY & BAKER NIGERIA PLC
5	MORISON INDUSTRIALS PLC
6	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC
7	PHARAMA-DEKO PLC
TOTAL	7

Source: www.ngx.com.ng

The sampling technique used in this study was purposive (Judgmental) sampling technique. As the name implies, it is a sample "chosen purely on the basis of convenience. Five (5) listed Healthcare firms were chosen simply because as at the time of this research work, two of the healthcare firms that are listed in Nigerian Exchange Group formally known as Nigeria Stock Exchange do not have variables like health and safety cost data available. Hence, purposively, data of ten years period was chosen for the study which consists of 50 observational time period (2012-2021).

Method of Data Collection: The study used secondary data for the analysis. Secondary data was collected from published annual reports of the five health care sector firms in the Nigerian Exchange Group Fact Book.

Measurement of Variables

The variables that were adopted to measure the relationship between human capital cost and financial performance of listed healthcare firms in Nigeria are presented in this section.

Table 3 Explanation of Variables

<i>Variables</i>	<i>Measures/ Abbreviations</i>	<i>Explanation</i>	<i>Mathematical Expression</i>
	Training and Development Costs (TDC)	TDC is a set of activities which react to present needs and is focused on the instructor and contrast with learning as a process that focuses on developing individual and organizational potential and building capabilities for the future.	Training cost are extracted direct from note to the accounts.

Independent Variable	Employees costs (EC)	Employee cost consists of salaries, wages, pension, and other employee benefits.	Employees cost are extracted direct from the income statement for some firm while others are extracted direct from the note to the accounts
	Health and Safety Costs (HSC)	These are cost spend on employees in term of medical expense, worker compensation payments and cost of legal service	Summary of medical expense, worker compensation and cost legal service
Dependent Variable	Return on Asset (ROA)	Return on assets is a profitability ratio that provides how much profit a company is able to generate from its assets.	$\frac{\text{Profit Before Taxes}}{\text{Total Assets}}$
Controlling Variable	Firm size	Firm size is a factor in determining company profitability in term of economies of scale that can be found in the traditional view of the company	Natural Log of Total Sale

Source: Newstyle and Major (2022) and Compiled by Researcher (2022)

Method of Data Analysis/ Model Specification: This study adopted descriptive statistics, Unit Root Test and Ordinary Least Square (OLS) multiple regression with the aid of Microsoft Excel, SPSS 25 and E-View 12. First, Microsoft Excel was employed to interpolate the raw data extracted based on the variables adopted for this study and the formula to be applied in calculating the measurement. Secondly, the data analysis was executed in three distinct stages. Univariate (or descriptive) analysis was executed, followed by bivariate analysis and lastly, multivariate analysis. In order to investigate the relationship between human capital cost and financial performance of listed healthcare firms in Nigeria from (2012 to 2021), we develop the Multiple Linear Regression analysis.

Return on Asset (ROA) Model

$$ROA = f(TDC, EC, HSC, FS) \dots\dots\dots 1$$

This can be written in Ordinary Least Square (OLS) form as:

$$ROA_{it} = a_0 + a_1ITDC_{it} + a_2EC_{it} + a_3HSC_{it} + a_4FS_{it} + U_t \dots\dots\dots 2$$

$$a_1 > 0; a_2 > 0; a_3 > 0; a_4 > 0$$

Where: ROA = return on asset, as proxy for financial performance

TDC = training and development costs as proxy for human capital accounting

EC= Employees costs as proxy for human capital accounting

HSC= health and safety costs as proxy for human capital accounting

FS = Firm size as a Proxy for Controlling Variable

t = time period under study

a_0 = constant

a_1 - a_4 = parameter or coefficient of explanatory variable

u = error term

DATA ANALYSIS AND DISCUSSION OF FINDINGS

The results obtained are analysed with the aid of E-View Software after transformation from the Microsoft Office Excel. This provided a comprehensive discussion of the results and established necessary inputs and implications based on the effect of human capital costs on financial performance of listed healthcare firms listed in the Nigeria for the period 2012 to 2021.

Table 4 Descriptive Statistics of the Variables

	N Stat	Mini Stat	Maxi Stat	Mean Stat	Std. Dev. Stat	Skewness		Kurtosis	
						Stat	Std. Error	Stat	Std. Error
TDC	50	.00	7.12	3.5170	1.70408	-.529	.374	3.793	.733
EC	50	6.99	668.83	21.3901	105.75038	6.190	.374	38.778	.733
HSC	50	.00	7.85	3.9129	2.11674	-.062	.374	-4.131	.733
ROA	50	.00	53.55	2.6530	11.19759	4.314	.374	17.562	.733
FS	50	.00	7.49	5.8514	1.52127	-2.931	.374	10.017	.733
Valid N (listwise)	50								

Source: Generated by the Researcher using SPSS

Table 4 presents the summary of descriptive statistics of training and development costs (TDC); employees costs (EC); and health and safety costs (HSC), return on assets (ROA) and Firm Size (FS) for the study. Given the scope of the study (2012-2021) in five selected healthcare firms and the frequency of the annual data, all the variables have 50 observations. As shown in Table 4, the Sum, Mean, Maximum and Minimum, Standard Deviation and Variance as well as the Skewness and Kurtosis of our variables of interest are evident. The various statistics indicate that the variables have different distributions. The Skewness and Kurtosis statistics provide useful information about the symmetry of the probability distribution of various data series as well as the thickness of the tails of these distributions respectively. These two statistics are particularly of great importance since they are used in the computation of Jarque-Bera statistics which is used in testing for the normality or asymptotic property of a particular series. EC and ROA are positively skewed showing that they have a long right tail and TDC, HSC and FS are negatively skewed indicates a short left tail. Kurtosis statistics of the all variables are positive and greater than 3 implying the extent of flatness of the distribution of the data series relative to normal.

Table 5 Output of Stationarity Test for Unit Root

Variables	Method	Statistic	5% Prob.**	Order of Integration
TDC	ADF Levin, Lin & Chu t*	-3.96014	0.0000	1(0)
EC	ADF Levin, Lin & Chu t*	-7.86944	0.0000	1(1)
HSC	ADF Levin, Lin & Chu t*	-7.86908	0.0000	1(0)
ROA	ADF Levin, Lin & Chu t*	-3.03223	0.0012	1(0)
FS	ADF Levin, Lin & Chu t*	-6.07925	0.0000	1(0)

Source: E-view Output for Stationarity of Data

The table above show the unit root test for variables conducted under the condition of an included intercept but no trend, the result reveals that the value of the augmented DickeyFuller (ADF) of -3.96014, -7.86944, -7.86908, -3.03223 and -6.07925 were generated with a P-values of 0.000, 0.0000, 0.0000, 0.0012 and 0.0000 less than 0.05 respectively. The result also indicated that TDC, HSC ROA and FS passed the stationarity test at level while EC is the only variable that passed the unit root stationarity at first difference means that it did not passed the test at level which required the researcher to difference it at the second time. Therefore, all the selection criterion were appropriately low as expected confirming that there is no reason to doubt the stationarity of the variables in question which implied that the null hypotheses of non-stationarity of the variables in the model is rejected at level and after 1st differencing at 5 percent level of

significance.

Table 6 Regression Analysis of the Model

Dependent Variable: ROA
Method: Panel Least Squares
Date: 09/28/22 Time: 14:48
Sample: 2012 2021
Periods included: 10
Cross-sections included: 5
Total panel (unbalanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.916246	6.840667	-1.157233	0.2552
TDC	-2.855881	1.152099	-2.478850	0.0183
EC	8.789356	2.351752	3.737364	0.0007
HSC	-0.605878	1.071985	-0.565192	0.5757
FS	-3.770424	2.406446	-1.566802	0.1264
R-squared	0.578218	Mean dependent var		2.720994
Adjusted R-squared	0.528596	S.D. dependent var		11.33559
S.E. of regression	7.782886	Akaike info criterion		7.060941
Sum squared resid	2059.493	Schwarz criterion		7.274218
Log likelihood	-132.6883	Hannan-Quinn criter.		7.137463
F-statistic	11.65259	Durbin-Watson stat		1.100267
Prob(F-statistic)	0.000005			

Source: E-view Output for Regression Model

In table 6, a panel least square regression analysis was conducted to test the significant effect of Training and Development Costs (TDC); Employees costs (EC); Health and Safety Costs (HSC) and Return on Assets (ROA). R-squared is coefficient of determination which explained the variation in the dependent variable due to changes in the independent variables. From the findings in the table 6, the value of R-squared were 0.578 which indicated that there was variation of 57.8% on Return on Assets (ROA) due to changes in Training and Development Cost (TDC); Employees cost (EC) Employees cost (EC) and Health and Safety Cost (HSC), while 42.2% was explained by unknown variables that were not included in the model. The F – statistic, 11.652 with a Prob (F-statistic) value of 0.000 showed that the model satisfied the overall goodness-of-fit statistical test. The Durbin-Watson Statistic of 1.100 suggests that the model does not contain serial correlation.

Test of Hypotheses

Statement of Hypotheses

Decision Rule: Accept Ho if P > 0.05. Otherwise reject

H0₁: Training and development costs has no significant effect on return on assets of listed healthcare firms in Nigeria.

Decision: The result in table 6 indicated significant level training and development costs (TDC) and return on assets (ROA). The probability value P=0.018 < 0.05 revealed that the significant effect of Training and development (TDC) and return on assets (ROA) is statistically significant at 0.05 alpha level. Thus the null hypothesis one is rejected which implied that training and development costs has significant effect on return on assets of listed healthcare firms in Nigeria.

H0₂: Employees costs has no significant effect with return on asset of listed healthcare firms in Nigeria.

Decision: The result in table 6 indicated significant level between Employees cost (EC) and return on assets (ROA). The probability value $P=0.000 < 0.05$ revealed that the significant effect of Employees costs (EC) on return on assets (ROA) is statistically significant at 0.05 alpha level. Thus the null hypothesis two is rejected which implied that Employees costs has significant effect on return on assets of listed healthcare firms in Nigeria.

H0₃: Health and safety cost has no significant effect with return on assets of listed healthcare firms in Nigeria.

Decision: The result in table 6 indicated no significant level between health and safety costs (HSC) and return on assets (ROA). The probability value $P=0.575 > 0.05$ revealed that the significant effect of health and safety costs (HSC) and return on assets (ROA) is statistically insignificant at 0.05 alpha level. Thus the null hypothesis three is accepted which implied that health and safety costs has no significant effect on return on assets of listed healthcare firms in Nigeria.

Discussion of Findings

Training and Development Costs and Return on Assets

The findings from hypothesis one in table 6 revealed that training and development costs has significant effect on the financial performance measures (return on assets) and this implied that as training and development costs increases, return on assets of companies increases. This results is consistent with the work of the following prior studies; Juliana et al (2019) study found that training and development cost have significant effect on performance of quoted companies in Nigeria; Balogun et al (2020) study showed that both the HR Training & Development Cost (HRTDC) and HR Remuneration Cost (HRRC) jointly and individually have noticeable effect on the financial performance of manufacturing companies in the country; Ekundayo and Odhigu (2016) study revealed that training cost has a significant impact on human capital in Nigeria. Rahman and Akhter (2021) result contradict this study result because his finding revealed that investment in training, knowledge level and skills of the employee were positively connected to bank performance. Onyekwelu and Ironkwe (2021) result showed that human resource accounting disclosure and training cost significantly affect Return on Asset. Ali (2017) study revealed that among many human capital components, training, education, exposure to agricultural extension activities, experience, education area and entrepreneurial skills of farm operators have significant positive impact on the financial performance of the investigated broiler farms. And, Edom et al (2015) study showed that there is a positive relationship between the indicators of human resource cost (training cost) and the profit of Access Bank Plc.

Employee Costs and Return on Assets

The findings from hypothesis in table 6 revealed that Employee costs has significant effect on the financial performance measures (return on assets) and this implied that as Employee costs increases, return on assets of companies increases. This results is consistent with the work of the following prior studies; Adesanmi (2021) result revealed that human capital efficiency, capital employed efficiency, firm size had significant positive effect on return on equity while human capital efficiency, structural capital efficiency, capital employed efficiency and leverage had a significant effect on return on assets. Duho and Agomor (2021) study indicated that structural capital efficiency is a major driver of profitability while human capital efficiency and capital employed efficiency is found not to have a significant impact on profitability among nonfinancial firms; Ngoc and Duc (2020) empirical result strongly confirmed that human capital efficiency makes a positive contribution to firm performance across sectors in Vietnam. But, the following prior study disagreed with this study result, Newstyle and Major (2022), study showed that employees cost has insignificant relationship with financial performance. Edom et al (2015)

found that the number of staff does not have a significant effect on profit of the bank. Omodero et al (2016) found that personnel benefit costs has no significant effect on firm turnover. The empirical evidence reveal conflicting findings and the timeframes considered in these studies were short resulting to knowledge gap in literature. This study improved on the previous studies by making use of healthcare firms data which the prior studies do not used.

Health and Safety Costs and Return on Assets

The findings from hypothesis 3 in table 6 revealed that health and safety costs has insignificant effect with the financial performance measures (return on assets) and this implied that as health and safety costs increases, return on assets of companies decreases. This result is inconsistent with the work of the following prior studies; Nwauzor and Longjohn (2020) result showed that, the relationship between compensation cost and market share is positive and statistically significant. Nigeria. Juliana et al (2019) study found that employee remuneration cost have significant effect on performance of quoted companies in Nigeria. Size of employees was found to have insignificant effect on performance of quoted companies in Nigeria. Ekundayo and Odhigu (2016) study revealed that welfare cost has a significant impact on human capital in Nigeria.

CONCLUSION(S) AND RECOMMENDATIONS

This study provided empirical evidence that investigated effect of human capital costs on financial performance of listed healthcare firms in Nigeria. Based on data obtained from the listed healthcare firms in Nigeria, data analysis, discussion of findings above, we concluded that;

1. Training and development costs negatively associated with return on assets of listed healthcare firms in Nigeria;
2. Employee costs positively associated with return on assets of listed healthcare firms in Nigeria;
3. Health and safety costs negatively associated with return on assets of listed healthcare firms in Nigeria;

Therefore, this study generally concluded that there is a negative and significant effect of human capita costs on financial performance of listed healthcare firms in Nigeria under the period of study between 2012 and 2021. Based on the conclusions above, the following recommendations were made:

1. Companies should adopt other human capital costs expenses (OSRE) as strategy for attracting and retaining high earnings because this study indicated that training and development costs, employee costs and health and safety costs has significant effect with financial performance in term of return on assets.
2. Adequate training of staffs should be taken into consideration because it will help firms to identify skills and knowledge of employee area of specialization.
3. The study recommends that firms can significantly improve on their performance by investing in their employees and seeing medical expensive as investment for the development of human asset towards enhancing financial performance.

IMPLICATIONS/CONTRIBUTION TO SCHOLARSHIP

By implication, this study provides empirical evidence to support the literature regarding human capital costs effect on financial performance of firms. The result of this investigation unravel and shed light on the understanding of how efficient human capital costs amongst healthcare firms in Nigeria can immensely enhance their financial performance. Below are some of contributions to scholarship;

Contribution to Literature: This study is the first to contribute to existing literature by constructing a conceptual framework which enable the researchers to clearly draw-up the

dimensions of human capital costs and measures of financial performance of healthcare firms in Nigeria. Furthermore, this study has contributed to literature review by adding summary of empirical review in a tabular format with a column for individual research gap which enable the researcher to draw-up a general research gap at the end of the empirical review.

Contribution to Policy: The study is of immense benefit to management of the corporate bodies by calling for accounting profession to begin to think of developing a system of identifying, measuring and reporting human capital accounting of a firm which can be used when researchers in this area is embarked upon in order to improve return on assets in the healthcare firms in Nigeria.

Contribution to Scope: This study has shown that human capital costs and financial performance go beyond manufacturing sector and deposit money banks by conducting the study in healthcare sector. Therefore, enlightens researcher to go far beyond studies on manufacturing firms and deposit money banks.

Contribution to Theory: This study has laid credence to human capital theory. It has added to the wide acceptability of the theory especially in testing the relationship between human capital accounting and financial performance of listed healthcare firms in Nigeria. This theory is built on and postulated that, it considered the cost of employees, training and development cost and value added intellectual coefficients as assets towards improving productivity of individual workers and also creates a sort of competitive advantage which ultimately could result in improved financial performance. Also, RBV theory has been applied in developing a complete model that examines earnings and human settings, where this is to furnish information related to management of risk by shareholders.

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