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# Human Resource Accounting: A Panacea to Financial Reporting Problem

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**Abstract**
Contemporary accounting scandal in the corporate world has cast aspersions on the reliability of financial reporting calling for urgent solution to restore lost investors' confidence. This study examined how the inclusion of human assets in the statement of financial position of companies could serve as a panacea towards answering the reliability question in financial reporting, since most of the said scandals have been attributed to human behaviour. Secondary data obtained from four companies, 2 each in Nigeria and Ghana (Cadbury Nigeria Plc; Dangote Cement Plc; Fan Milk Ghana Limited and PZ Cussons Ghana Ltd) for 2012-2015 were analysed using descriptive and inferential statistics. The Lev & Schwartz's Present value of future earnings model was adopted to recognise the human assets in those reports with the amended financials revealing an improvement in the value of the companies. The result of the statistical test showed mixed results revealing non-normality of almost all the financial indices of Return on Asset, Return on Equity, Leverage and Earnings Per Share, thereby resulting in the rejection of the null hypotheses while the Analysis of Variance favoured the null, as the test reveals higher f-stat (p-val.) at 5% significant level for all the financial indices. It was concluded that human resource accounting may resolve some unethical challenges questioning the reliability of financial reporting. It was therefore recommended that accounting standard setters, IASB, should bring out an exposure draft for an enduring standard on human resource accounting.
**Keywords:** accounting standards, financial reporting, human assets, human resources accounting, reliability.

## 1.0 Introduction

Economically, resources are needed to produce both for consumption and growth. These resources are both human and inhuman. While the human resources are human being needed to bring together all other resources, those other resources are made up of what economists regard as 3ms (money, material and machines). All the 4ms (money, material, machines and men) are normally accounted for in the financial statement, but in different ways (Akintoye, 2016). While money is represented by capital; material is represented by inventory; machine, by property plant and equipment; men on the other hand, is recognised in the book as salaries and wages.

From this analogue, only human resources, represented by men, are not capital items as other 3ms are balance sheet items (to be amortised over their useful lives) while human resource, which is supposed to be the coordinating activity of all other resources, is regarded as a profit or loss item (to be written off in the financial year). This has been found to be a fallacy by many authors and has been presumed to be one of the reasons why current financial reports are not correctly stated as the value of the coordinating efforts of all the other resources are not included in the value of the firms.

Expensing human efforts in the income statement is even contrary to the usual sayings of employers in the annual reports as captured in the Chairmen report that human asset is the most valuable resources of their companies; hence they restate the level of investments they deployed on the development of workforce in the year. Atedo's report as Cadbury Plc chairman attests to this fact "*in Cadbury Nigeria Plc, our people are our number one asset. The collective commitment of our workforce has been instrumental to the sustained improvement of our corporate performance"* The same thing was mentioned in the human resource policy of Dangote Plc, where it was stated that "*….the company continues to place premium on its human capital development arising from the fact that this would ensure improved efficiency of the business and maintains strategic advantage over competitions……..".* The directors' report of Fan Milk, Ghana in 2015 also acknowledged the continued support and invaluable contributions of its management and staff that led to the sterling performance achieved in the year. Also, the chairman of PZ Ghana, in his 2015 report states: "…….*I would like to extend my thanks and appreciation to our management and staff whose hard work, commitment and continuous focus on improvement and change, in a very demanding external environment, has been the major driving force in delivering this year's success".* All these attest to the importance attached to human resources in organisations. All the aforementioned organisations realise the fact that without human efforts, the other 3ms cannot produce anything without the human element hence it is paramount that firms should recognise human resources in the organisation as an asset rather than as an expense to be written off in the income statements.

Accounting for Human resources or Human Resource Accounting (HRA) involves accounting for expenditures related to human resources as assets as opposed to traditional accounting which treats them as expenses that reduce profit, (Bullen and Eyler, 2013). Akintoye, Olowolaju and Odewusi (2014) explained that

 

this erreneous treatment of human resource accounting causes the need for treating it as intangible asset in the statement of financial position of organisation.

Historically, early development of HRA emanates from University of Michigan, through a research led by Likert (1961) where concepts and methods of accounting for human resources were designed.

Another study dealing with human resource management was undertaking by Brummet, Flamholtz and Pyle (1968), here the term, Human Resource Accounting, was used for the first time. Flamholtz (1969) PhD dissertation was based on a theory of an individual's value to an organization and how it could be measured through HRA. Brummet, Flamholtz and Pyle (1969) regard HRA as tool for increasing managerial effectiveness in the acquisition, development, allocation, maintenance and utilization of its human resources.

Four companies were selected for this study, these are Cadbury, Dangote Cement, Fan Milk (Ghana) and PZ Cussons Ghana. Cadbury was incorporated in Nigeria in 1965 with the principal goal of manufacturing and selling branded fast moving consumer goods mostly to Nigerian market and also for export in West Africa. It was listed on Nigerian Stock Exchange in 1976, (Cadbury, 2015). Dangote Cement was established to operate plants for the preparation, manufacture, control, research and distribution of cement in Nigeria and other countries within Africa. Its production plants are based in Obajana, Kogi State; Gboko in Benue State and Ibese in Ogun State of Nigeria, (Dangote Cement, 2015). Fan Milk is involved in the manufacture and distribution of dairy products and fruit drinks in Ghana and other West African countries, (Fan Milk, 2015). PZ Cussons Ghana Limited is engaged in the manufacturing, purchase and distribution of soaps, electrical appliances, nutritional products, cosmetics and pharmaceutical products, (PZ Cussons, 2015).

This study was organized into five main sections: Section 1: the introductory section of the study; section 2 reviewed various literatures on the subject and the section is made up of conceptual framework, theoretical framework and empirical review of previous studies. Section 3 is the hearth of the study that deals with the methods adopted in this research. Section 4 is on data presentation, analysis and interpretation while Section 5 is the recommendation section of the study.

### 1.1 Statement of research problem

The problem of measurement of HRA has been a topical issue and many countries have been agitated about it. The fact that USA GAAP has been moving toward adoption of more complex measurement methods in financial reporting compared with the traditional historical cost approach to asset measurement, is a pointer to the fact that capitalizing HRA may become accepted in future financial reports. Though IFRS has not currently set any standard on HRA like USA GAAP, it is also moving towards providing more flexible approaches to accounting measurements and reporting, recognizing human resource capitalization amongst others. Recent acceptance of fair value as a basis for measuring both tangible and intangible assets by both standards (IFRS and US GAAP) suggests a need for the recognition of HRA in future external financial reporting, Bullen and Eyler (2013).

It can be evident from the above that few research studies have focused on the treatment of human resource accounting. As such this study empirically proffers solution to financial reporting problem through the inclusion of human efforts as asset rather than the current treatment as an expense in the financial statement.

### 1.2 Objective of the Study

The main objective of this paper was to examine the impact of treating human efforts in an organization as an expense as distinct from treating it as an asset in the financial position of the firm. This was done by reviewing the financial statements of sampled companies in Nigeria and Ghana.

## 2.0 Literature Review

### 2.1 Conceptual framework

Human Resources are employees of various grades employed in production in a firm. They are categorised into unskilled, semi-skilled, managerial and technical skilled in an organisation. According to Bhovi (2016), business organisation's success or failure depends on the quality of human resources, like employees' calibre, skills, efficiency, creativity, ability and dedication of their resources towards success in the organisation. On the other hand, Human Resource Accounting is the process of identifying and measuring data about human resources and communicating this information to the interested parties (American Accounting Association, 1973). This definition was expatiated by Bhovi (2016) as the process of identifying, measuring data of recruiting, selecting, training and developing for human resources and communicating this information to the management for the decision making for proper and optimum utilisation.

Two terminologies are crucial in the accounts for human resources; these are Human Capital and Human Assets. Ikpefan, Kazeem and Taiwo (2015) stated that, to bring value to human resources is to re-describe it as human capital, thus the word Human Capital, whose value is significant to the firm. To them it is the productive efforts of an organisation's workforce. Also, Human assets is used interchangeably with human capital and according to Flamholtz (1999), it is described as accounting for people of an organisation. In essence, it talks

 

about capitalising human efforts as distinct from the current practice of expensing them. Human effort could be represented as an intangible asset in the financial statement.

Financial report and financial statement involve the disclosure of financial information to the management and the public about how the company has performed over a specific period of time (Kaseem, 2012). There seems to be no material difference between the two, only their interpretation and meaning in the financial and accounting world that is somehow different (Kermis and Kermis, 2011). One area of difference between the two concepts is in their composition. Whereas financial statements consist of four elements namely statement of financial position; statement of profit or loss; statement of cash flow and statement of changes in equity, financial report on the other hand, includes all the afore-listed four statements in addition to other reports that could help the stakeholders to fully understand the financial and non-financial activities of the organisation, such as Value Added Statement, Five (5) years summary, prospectus, environmental impact reports and other voluntary disclosure items. The distinction between financial statement and financial reporting was well captured by the Conceptual framework for financial reporting where it was stated that financial statements form part of the process of financial reporting, (IASB Framework, 2008). The framework went further to state that the objective of financial reporting is to make the information provided in the financial statements useful to users. For information to be useful, it should possess two fundamental qualitative characteristics: relevance and faithful representation as well as complementary characteristics, enhancing qualitative characteristics: comparability, verifiability, timeliness and understandability. If we are confident that the present financial statements, as they are presently composed, satisfy both enhancing qualitative characteristics and relevance, we cannot conveniently state that they reflect faithful representation of the financial position of the firms by excluding human resource as an asset.

### 2.1.1 Current position of International Financial Reporting Standards on Human Resource efforts

Accounting standards are the pronouncement on how accounting information can be measured, recognised, recorded and disclosed in the financial statement of an organisation. We have local and international standards, but both Ghana and Nigeria have surrendered their local standards as they have both adopted the international standards (IFRS) in 2007 and 2011 respectively.

Since 2001, the International Accounting Standard Board (IASB) has been developing and promulgating the IFRS but prior to this time the International Accounting Standard Committee (IASC) had issued International Accounting Standards (IAS) which were adopted initially by the IASB when it replaced IASC. As at the last count 41 IASs were formulated by IASC, some of which have been replaced by new IFRS, those yet to be replaced are now regarded as IFRS. Though there has not been any specific IFRS on Human Resource Accounting, semblance of this aspect can be found in IAS 38 (Intangible Assets); IFRS 5 (Non-current assets held for sale and discontinued operations); IAS 19 (Employees Benefit) and IFRS 2 (share based payments). We state here-under the position of each of these standards on the treatment of human resource efforts.

IAS 38 sets out the rules on the recognition, measurement and disclosure of intangible assets. For an intangible assets to be recognised in the financial statement, such asset must be controllable, (that is, the company has the power to obtain the future economic benefits flowing from it and can also restrict the access of others to those benefits); must be separable (capable of being separated or divided from the company and sold, transferred, licensed, rented or exchanged); and its cost can be measured reliably. The position of the standard is that all other 3ms apart from human efforts are controllable, capable of being separated and their costs can be measured reliably, hence they should be treated as asset, while human efforts, represented by wages and salaries in the income statement should not be capitalised.

IFRS 5 explains the rules on the measurement and presentation of non-current assets held for sale and discontinued operations. This standard is applicable to professionals like footballers that are normally held for sale to another club. The criteria set in the standard are that they are subject to impairment test; presented on a separate category on the face of the statement of financial position and are no longer depreciated. Human resources are amenable to all the criteria, as the value attached to them can be subjected to impairment test to be able to determine the carrying cost (like when a footballer has injury, he is said to be impaired and his carrying cost would be reduced). The value to be regarded as human asset can be presented on a separate category as intangible assets and can be amortised over the useful working life of employees.

IAS 19 defines employee benefits as all forms of consideration given by an entity in exchange for service rendered by employees or for the termination of employment. The standard recognises four categories of employee benefits as: short term employee benefits (wages and salaries, paid annual leave and paid sick leave, profit sharing and bonuses and other allowances);

Post-payment benefits (retirement benefits, life insurance etc); other long term benefits (long-service leave, sabbatical leave, long term disability benefits) and termination benefits. The standard requires an entity to recognise a liability when an employee has provided a service in exchange for a benefit that will be paid in the future and to recognise an expense when the entity makes use of the service provided by the employee. This is an affirmation that only the consumed aspect of employee benefits should be expensed while the aspects that are

 

of long term benefit should be stated as a liability in the book, thus supporting the capitalisation of human resource efforts.

IFRS 2: According to the standard, employee share option scheme presupposes that an employee is given the right to subscribe for new shares in the company at a future date, at a price that is usually fixed when the share options are awarded. Since this cost has some traces of future benefit, it is presumed that it should be reflected as an asset rather than expensing it in the profit or loss statement.

### 2.1.2 Criticism of IFRS position on treatment of Human Resource efforts

Talking about controllable, human resource can also be controlled like plant and machinery. Staff training creates skills that could be seen as an asset for the employer. Though staff can leave the firm's employment at any time, taking with them the skills they have acquired during the training. However such movement can be controlled through signing of bonds before the commencement of the training. Human resources are separable as they can be deplored to various section of the firm, could be sold (professional footballers are being sold from time to time), could be transferred from one section to another, could be rented or exchanged (through staff replacement). Cost can be reliably estimated as we can estimate how much is payable to each staff, the training cost, cost of recruiting, current and future benefits. All these can qualify human resource costs to be regarded as intangible assets to be amortised over their useful live, which is the pre-retirement period.

## 2.2 Theoretical Review

The following theories are relevant to human resources: theory of performance management, goal setting theory, human capital theory, expectancy theory and resource based theory.

### 2.2.1 Theory of Performance management

In the word of Aguinis (2009), performance theory relates to continuous process of identifying, measuring and developing the performance of individuals and aligning performance with the strategic goals of the organisation. Therefore to reach goal congruence the performance of individual employee must be in tandem with the organisational objective. Various organisation device different means of developing the performance of individuals in order to meet their performance aspirations, one of this is training and retraining of employees to make them to be in tune with latest best practice in the world of business.

### 2.2.2 Goal setting theory

This theory as proposed by Locke (1965), suggests that individual's goals established by employee himself, plays an important role in motivating him for superior performance. This is premised on the fact that each employee has his individual aspiration of what he expects from the work and he would strive hard to achieve that goal so as to be able to fulfil obligations to his immediate dependants.

### 2.2.3 Expectancy Theory

This theory is closely related to goal setting theory which was put forward by Vroom (1964). It is based on the assumption that individual normally adjust their behaviour in a firm on the basis of anticipated satisfaction of goals set by them. This is what Vroom called 'valence and expectancy'. That is, individual does certain thing in anticipation of a reward. Individual works in an establishment in return for remuneration. It is also common to state that no rich man ever donates money without expecting some returns. The same goes for politician, they dole out gifts to electorate in order to win their votes and eventually get rewarded through jumbo pays attached to their elective positions.

### 2.2.4 Resource Based Theory

According to Schuler and Macmillan (1984), human resource management greatly influences an organisation's human and organisational resources to gain competitive advantage. To a greater extent, employees' performance would depend on the resources available to them; hence they are supported to perform by the company by making available the required resources. This is the reason why only employer who can provide modern technologies that can boast of newly improved products**.**

### 2.2.5 Human Capital Theory

This theory was popularised by Shultz (1961) and Becker (1964). They opined that people invest in education so as to increase their stock of human capital. Specifically Becker (1964) sees education or training as a means of boasting productivity of work and individuals through imparting useful knowledge and skill, thus raising workers' future income by increasing their life time earnings. This points to the fact that training or education of worker is a long enduring investment, the benefit of which cannot be short lived, which qualifies such expense to be capitalised in the firms' financial statement. According to Nwachukwu (2015), education is a crucial type of investment for the exploitation of modern technology.

### 2.2.6 Theoretical Framework and hypotheses development

Even though all the above theories are relevant to human asset, the outstanding one that captures the various models formulated by experts on human assets is human capital theory hence this study is premised on Human Capital Theory. Most of our discussions and analysis, going forward, are based on this theory. This theory is best fitted in our hypotheses formulation as investment in education brings about efficiency, which eventually leads

 

to higher return on equity and asset. Therefore, we premised our study on four hypotheses:

(i) there is no significant difference in the means of ROE before and after capitalisation of human assets;
(ii) there is no significant difference in the means of ROA prior to and after capitalising human resources benefits;
(iii) the reported means of leverages of capitalised HRA and non-capitalised HRA do not differ significantly;
(iv) there is no significant difference between the means of reported EPS prior to and after capitalising HRA.

### 2.3 Empirical Review

Many studies have been done on human resource accounting both in Nigeria and abroad, almost all the studies support the capitalisation of human asset in different ways. Falayi and Falayi (2014) in assessing the usefulness of human resource accounting and the need to promote its wide acceptance through IFRS, adopted the Flamholtz's historical cost of hiring human capital model to determine the value of human resources. They used the annual reports of First Bank Nigeria Plc for 2012 and 2013 and concluded that Gearing, EPS and ROA of the bank revealed better result when human resource value was capitalised than when it was expensed. They therefore recommended that IASB should develop and issue an IFRS on treatment of human resources as an asset in company's financial statements. Akintoye, Olowolaju and Odewusi, (2014) was anchored on how realistic the adoption of Lev & Schwartz model is in accounting for human asset in the financial statement, using Zenith Bank Plc as case study. Their study was an improvement on Falayi's study as 5 years annual report of the bank was analysed using simple regression analysis. They found a positive effect of human resource on the profit and capital employed by the bank. Their recommendation that the likely stay of an employee should be predetermined at the point of recruitment is good but the actualisation of it is of concern. Afolabi (2014) in discussing the recording and disclosure of human resource accounting in the financial statement, also aligning with Akintoye *et al*. (2014) present value of future earnings model suggested by Lev & Schwartz (1971), using the redrafted Balance Sheet and Income Statement exhibited by Anton, Firmin and Grove (1978). She found that any organisation whose employees are reported and accounted for using value model, the employees' effectiveness, efficiency and that organisation's performance is always high. She therefore recommended that the present imperfect convention that is inadequate of measuring and reporting the cost of human capital should be replaced with a near perfect convention of time valuation, which accounts for and disclosing human resource as an asset in the financial statement.

In analysing the challenges facing the adoption of human resources in Nigeria, Ogenyi and Oladele (2015), using primary data collected through a survey instrument identified three challenges as Asset Recognition Criteria, Disclosure Requirements and Existing Social Order. The result of the statistical analysis on the data revealed that both asset recognition criteria and disclosure requirements are highly responsible for non-accounting for human resources accounting in Nigeria, even on a voluntary basis. Even though the existing social order was statistically significant at 5%, does not hinder accounting for human resources in Nigeria.

This paper also agreed that regulators should make pronouncement on Human Resource Accounting (HRA). The contributions to the growth of human resource accounting from international community cannot be over-emphasised as it is critical in investment decisions to all stakeholders. These contributions have yielded some dividends as countries are now attaching importance to HRA, at least by way of disclosure in the financial statement. Hansen (2010) reports that almost two thirds of 250 largest companies in the world now issue sustainability reports along with their financial reports in order to capture the full value of the organisation. This report includes disclosure of workforce data to reflect potential for future growth and profitability.

## 3.0 Method of Data Analysis

### 3.1 Design

This study is an ex-post facto explanatory non-experimental research design to investigate how inclusion of human asset can enhance the value of firms of selected companies in two Sub-Sahara African states (Nigeria and Ghana). Both descriptive and inferential statistics were used in analyzing our data.

### 3.2 Model Specification

Various models have been developed for the measurement of human assets by experts. These models can be broadly classified into: cost approach and value approach. Cost approaches refer to historical cost, replacement cost, opportunity cost and standard cost approaches and the proponents of these approaches are Pyle and Barry (1967), Likert (1961), Heckiman and Jones (1967) and Watson respectively. Value approaches found cost approaches to be unrealistic, they are many and include: Lev and Schwartz's present value of future earnings; Hermanson's unpurchased goodwill model; Hermanson's adjusted discount future wages model; Flamholtz's

 

stochastic reward model and Morse's net benefit model amongst others.

### 3.2.1 Pyle and Barry Historical cost approach

This is valuing human resource based on the historical cost of acquisition as is the case with other assets. Historical cost attached to human resources, according to this approach, includes actual cost involved in recruiting, selecting, training and developing the human resources of the organisation. They expect this cost to be accumulated and capitalised and amortised over the expected useful life of human resources. Further costs incurred during the period of service are also to be added and amortisation charge adjusted proportionately. The drawback on this approach is the cumbersomeness of cost accumulation as well as certainty in determining the expected useful life of human resources.

### 3.2.2 Likert's Replacement cost approach

This approach expects to value human asset based on the cost of replacing the existing human resources or the cost of new employees of equivalent ability and efficiency capable of rendering an equivalent set of services. According to the author, the above historical cost will be included in this approach plus the present value of proficiency in the organisation.

### 3.2.3 Heckiman and Jones' Opportunity cost approach

Heckiman and Jones (1967) adopted the Economists concept of opportunity cost to value human resource. Economists regard opportunity cost as the cost of alternative item, relating this definition to human asset they regard the value of an asset as the alternative opportunity of using the human asset. No opportunity cost for employees who are not scarce, hence only scarce people should form part of the value of human resources. This approach is somehow defective as it regards benefit that are obtainable from those employees that are excluded from the definition, as they also contribute to the future stream of inflow into the business.

### 3.2.4 Watson's Standard Cost model

Watson categorised employees into different groups in hierarchical orders with standard cost fixed for each category and value calculated. The problem with this method is that differences in the cost of recruiting, hiring, training and development relating to each employee for each category is disregarded as everybody in a category is allocated a common standard cost.

### 3.2.5 Lev & Schwartz's Present value of future earnings

This model is the most popular and widely used and is based on the estimated future earnings for a given age, which is the present value of the remaining future earnings from his employment till retirement discounted to arrive at the present value. Lev & Schwartz (1971) states that the value of human assets is

$$Vr = \Sigma \frac{I(t)}{(1+R)^{t-r}}$$

Where V = value of an individual r years old

I(t)=the individual annual earnings up to retirement

R = discounting factor

t = retirement age

r = years old

Even though the model is widely used it ignores the productivity of employees and expenses of training and development incurred by the company on the employee is also not considered in arriving at the value of an employee.

### 3.2.6 Hermanson's unpurchased goodwill model

This model, according to Hermanson (1964), requires the computation of the ratio of net income after tax to total assets (excluding human assets) of each firm, compared with the ratios for the industry as a whole. The value of human resources of a firm is then measured with the help of differential rates.

### 3.2.7 Hermanson's adjusted discounted future wages model

Hermanson (1986) used compensation as the means of measuring employees' value to the firm. Compensation is regarded as the present value of future streams of wages and salaries to employees of the firm. The discounted future wages stream is normally adjusted by an 'efficiency ratio' which is usually the weighted average of the ratio of the return on investment of the given firm to all the firms in the economy for a specified period, usually the current year and the preceding 4 years.

### 3.2.8 Flamholtz's Stochastic Rewards model

This model considers the movement of people through organisational 'states or roles' regarded as stochastic process. The reward model is a way of measuring a person's expected conditional value and expected realisable value, based on the premise that an individual generates value as he occupies and moves along organisational roles and renders services to the organisation. Flamholtz (1999) believes that a person's expected conditional value and expected realisable value will be equal, if he is certain to remain in the organisation, in the predetermined set of states, throughout his expected service life.

### 3.2.9 Morse's Net Benefit model

This model equates the value of human resources to the present value of net benefit derived by the firm from the

 

source of its employees. Morse (1973) assumes the net benefit of human resources to be the excess of gross value of services to be rendered in the future by the employees (individually and collectively) over the value of future payments (direct and indirect) to the employees.

### 3.3 Model Adopted for the Study

For its popularity and reliability we applied Lev and Schwartz model of present value of future earnings to analyse the value of human resources of sampled companies based on the following assumptions:

(i) Average age of employee group is 52;
(ii) Age of retirement is 60;
(iii) Cost of capital is 12% (applicable to Ghana companies) as the costs of capital of Nigeria companies are as stated in their financial statements.

All other factors as number of employees, employee's remunerations, and average remunerations are all computed based on the figures indicated in the annual reports.

### 3.4 Data Collection

Secondary data were collected from annual reports of 4 companies: 2 from Nigeria (Cadbury and Dangote Cement) and 2 from Ghana (Fan Milk and PZ Ghana) for 4 year period 2012-2015, which form the basis of our analysis. Hypotheses were formulated and relevant statistical analysis done on data obtained.

## 4.0 Data Presentation, Analysis and Interpretation

The annual reports of the sampled companies were re-worked based on the assumptions in paragraph 3.3 using Lev and Schwartz model. The companies' financial statements were re-stated before the adjusted position in line with the model. Presented below is the financial summary of the companies prior and after capitalization of human resource assets.

**Table 1: Cadbury (Nigeria) Plc Financial Summary (pre Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Average |
|---|---|---|---|---|---|
| Total Assets (Nm | 28,417 | 28,820 | 43,173 | 40,157 | 35,142 |
| Equity (N'm) | 12,285 | 11,542 | 23,995 | 20,039 | 16,965 |
| Turnover (N'm) | 27,825 | 30,519 | 35,761 | 33,551 | 31,914 |
| Profit after Tax | 1,153 | 2,137 | 6,023 | 3,455 | 3,192 |
| Return on Assets | 4.06 | 7.41 | 13.95 | 8.60 | 9.08 |
| Return on Equity | 9.39 | 18.51 | 25.10 | 17.24 | 18.81 |
| Leverage | 1.31 | 1.50 | 0.80 | 1.00 | 1.07 |
| Asset Turnover | 0.98 | 1.06 | 0.83 | 0.84 | 0.91 |
| Earnings per share | 61.40 | 105.48 | 192.43 | 110.38 | 125.62 |

**Source: Researchers' Study (2018)**

**Table 2: Cadbury (Nigeria) Plc Financial Summary (post Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Average |
|---|---|---|---|---|---|
| Total Assets (Nm | 48,094 | 48,293 | 69,152 | 64,183 | 57,431 |
| Equity (N'm) | 26,059 | 25,173 | 42,180 | 36,857 | 32,567 |
| Turnover (N'm) | 27,825 | 30,519 | 35,761 | 33,551 | 31,914 |
| Profit after Tax | 4,691 | 5,020 | 8,587 | 6,955 | 6,313 |
| Return on Assets | 9.75 | 10.39 | 12.42 | 10.84 | 10.99 |
| Return on Equity | 18.00 | 19.94 | 20.36 | 18.87 | 19.38 |
| Leverage | 0.85 | 0.92 | 0.64 | 0.74 | 0.76 |
| Asset Turnover | 0.58 | 0.63 | 0.52 | 0.52 | 0.56 |
| Earnings per share | 249.77 | 247.76 | 274.34 | 222.21 | 248.45 |

**Source: Researchers Study (2018)**

From Tables 1 and 2 almost all the parameters favour the inclusion of human asset in the financial statement of Cadbury Plc. The value of the company, represented by the total Assets, on the average increased from N35.142bn to N57.431bn, indicative of undervaluation of assets by not including human resource efforts in the statement of financial position. Equity also increased by almost 92%; Profit almost doubled from N3.192bn to N6.3bn by adding back almost N4.8bn human resource benefit attributable to the future profit before tax. This also impacts on ROA, ROE and EPS that increased from 9.08%, 18.81% and 125.62k to 10.99%, 19.38% and 248.45k respectively. Leverage and Asset Turnover however both fell from 1.07 and 0.91 to 0.76 and 0.56 respectively. All these are good indications that financial reports, as they are being constructed at the moment, are not reflecting the true position of owners' affairs.

 

**Table 3: Dangote Cement Plc Nigeria (pre Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Average |
|---|---|---|---|---|---|
| Total Assets (N'm) | 1,110,943 | 984,720 | 843,204 | 658,201 | 899,267 |
| Equity (N'm) | 644,720 | 591,885 | 550,093 | 404,536 | 547,809 |
| Turnover (N'm) | 491,725 | 391,639 | 386,177 | 298,454 | 391,999 |
| Profit after Tax | 181,323 | 159,501 | 201,198 | 145,024 | 171,762 |
| Return on Assets | 16.32 | 16.20 | 23.86 | 22.03 | 19.10 |
| Return on Equity | 28.12 | 26.95 | 36.58 | 35.85 | 31.35 |
| Leverage | 0.72 | 0.66 | 0.53 | 0.63 | 0.64 |
| Asset Turnover | 0.44 | 0.40 | 0.46 | 0.45 | 0.44 |
| Earnings per share | 10.64 | 9.36 | 11.81 | 8.51 | 10.08 |

**Source: Researchers' Study (2018)**

**Table 4: Dangote Cement Plc Nigeria (post Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Average |
|---|---|---|---|---|---|
| Total Assets (N'm) | 1,222,385 | 1,062,603 | 909,495 | 712,884 | 976,842 |
| Equity (N'm) | 722,729 | 646,403 | 596,497 | 442,814 | 602,111 |
| Turnover (N'm) | 491,725 | 391,639 | 386,177 | 298,454 | 391,999 |
| Profit after Tax | 152,026 | 142,681 | 143,477 | 102,193 | 135,094 |
| Return on Assets | 12.44 | 13.43 | 15.78 | 14.34 | 13.83 |
| Return on Equity | 21.03 | 22.07 | 24.05 | 23.08 | 22.44 |
| Leverage | 0.69 | 0.64 | 0.52 | 0.61 | 0.62 |
| Asset Turnover | 0.40 | 0.37 | 0.42 | 0.42 | 0.40 |
| Earnings per share | 8.92 | 8.37 | 8.42 | 6.00 | 7.93 |

**Source: Researchers' Study (2018)**

Just exactly as reported under Cadbury (Tables 1 and 2), Table 3 and 4 also indicate that the value of Dangote Cement increased, on the average, from N899.267bn to N976.842bn with the recognition of human resources benefit as an asset rather than treating it as an expense. Leverage improved minimally from 0.64:1 to 0.62:1, while Asset turnover also improved from 0.44 to 0.42. The reduction in Returns on Asset, Return on Equity and Earnings per share are all attributable to tax credit granted the company, the basis of which was not in the financial statement, while tax computation on Profit of post Human Resource Statement was at the statutory rate of 30%.

**Table 5: Fan Milk, Ghana Financial Summary (pre Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Mean |
|---|---|---|---|---|---|
| Total Assets (GHc'000) | 214,214 | 123,913 | 101,247 | 96,553 | 133,982 |
| Equity (GHc '000) | 120,278 | 81,021 | 76,431 | 61,681 | 84,853 |
| Turnover (GHc '000) | 315,409 | 177,492 | 138,969 | 147,212 | 194,771 |
| Profit after Taxation | 49,716 | 15,049 | 21,722 | 27,198 | 28,421 |
| Return on Assets | 23.21 | 12.14 | 21.45 | 28.17 | 21.21 |
| Return on Equity | 41.33 | 18.57 | 28.42 | 44.09 | 33.49 |
| Leverage | 0.78 | 0.53 | 0.32 | 0.57 | 0.58 |
| Asset Turnover | 1.47 | 1.43 | 1.37 | 1.52 | 1.45 |
| Earnings per share | 42.78 | 12.95 | 18.69 | 23.40 | 24.46 |

**Source: Researchers' Study (2018)**

**Table 6: Fan Milk, Ghana Financial Summary (post Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Mean |
|---|---|---|---|---|---|
| Total Assets (GHc '000) | 341,324 | 202,585 | 181,194 | 182,393 | 226,874 |
| Equity (GHc '000) | 215,611 | 140,025 | 136,391 | 126,061 | 154,522 |
| Turnover (GHc '000) | 315,409 | 177,492 | 138,969 | 147,212 | 194,771 |
| Profit after Taxation | 74,729 | 29,477 | 34,238 | 38,945 | 44,347 |
| Return on Assets | 21.89 | 14.55 | 18.90 | 21.35 | 19.55 |
| Return on Equity | 34.66 | 21.05 | 25.10 | 30.89 | 28.70 |
| Leverage | 0.58 | 0.45 | 0.33 | 0.45 | 0.47 |
| Asset Turnover | 0.92 | 0.88 | 0.77 | 0.81 | 0.86 |
| Earnings per share | 64.31 | 25.37 | 29.46 | 33.51 | 38.16 |

**Source: Researchers' Study (2018)**

Table 5 and 6 reveal that total value of Fan Milk increased from GHc 133.982m to GHc 226.874m, on the

 

average, over the four years period. Equity also increased to GHc 154.522m from GHc 84.853m. Profit after Taxation from GHc 28.421m to GHc 44.347m. All these result from the recognition of human asset in the statement of financial position over the year. Just exactly as under Dangote Cement the reduction in Returns on Asset, Return on Equity and Earnings per share are also attributable to tax credit granted the company, the basis of which was not in the financial statement, while tax computation on Profit of post Human Resource Statement was at the Ghana statutory tax rate of 25%.

**Table 7: PZ Cusson, Ghana Financial Summary (pre Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Mean |
|---|---|---|---|---|---|
| Total Assets GHc '000) | 102,759 | 85,261 | 72,907 | 62,278 | 80,801 |
| Equity (GHc '000) | 33,970 | 36,713 | 39,189 | 31,328 | 35,300 |
| Turnover (GHc '000) | 128,311 | 107,150 | 95,742 | 82,322 | 103,381 |
| Profit after Taxation | (2,743) | (1,703) | 7,861 | 763 | 1,045 |
| Return on Assets | (2.67) | (2.00) | 10.78 | 1.23 | 1.29 |
| Return on Equity | (8.07) | (4.64) | 20.06 | 2.44 | 2.96 |
| Leverage | 2.02 | 1.32 | 0.86 | 0.99 | 1.29 |
| Asset Turnover | 1.25 | 1.26 | 1.31 | 1.32 | 1.28 |
| Earnings per share | (1.63) | (1.01) | 4.68 | 0.63 | 0.67 |

**Source: Researchers' Study (2018)**

**Table 8: PZ Ghana Financial Summary (post Human Resource Asset)**

| | 2015 | 2014 | 2013 | 2012 | Mean |
|---|---|---|---|---|---|
| Total Assets (GHc '000 | 132,147 | 115,666 | 107,191 | 96,532 | 112,884 |
| Equity (GHc '000) | 56,011 | 59,517 | 64,902 | 57,019 | 59,362 |
| Turnover (GHc '000) | 128,311 | 107,150 | 95,742 | 82,322 | 103,381 |
| Profit after Taxation | 2,678 | 3,299 | 12,765 | 5,258 | 6,000 |
| Return on Assets | 2.03 | 2.85 | 11.91 | 5.45 | 5.32 |
| Return on Equity | 4.78 | 5.54 | 19.67 | 9.22 | 10.11 |
| Leverage | 1.36 | 0.94 | 0.65 | 0.69 | 0.90 |
| Asset Turnover | 0.97 | 0.93 | 0.89 | 0.85 | 0.92 |
| Earnings per share | 1.59 | 1.96 | 7.60 | 4.33 | 3.84 |

**Source: Researchers' Study (2018)**

Table 7 and 8 reveal the results of PZ Cussons Ghana, it also followed the same trend as others, as the inclusion of human asset results in the increase in the value of the firm, on the average, from GHc 80.801m to GHc 112.884m; Equity from GHc 35.3m to GHc 59.362m; Profit after Taxation from GHc 1.045m to GHc 6.00m; ROA from 1.29% to 5.32%; ROE from 2.96% to 10.11%; Leverage from 1.29:1 to 0.9:1; Asset Turnover from 1.28 to 0.92 and EPS from 0.67 to 3.84. All these are pointers to the fact that inclusion of human asset would solve the existing problem of financial reporting.

### 4.1 Data Summary

**Table 9: Descriptive Measures for Financial Ratios- Cadbury Nig. Plc**

| | ROA | | ROE | | Gearing | | EPS | |
|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post |
| Mean | 8.62 | 10.88 | 17.81 | 19.31 | 1.14 | 0.78 | 119.06 | 248.51 |
| Median | 13.95 | 12.42 | 25.10 | 20.36 | 0.80 | 0.64 | 192.43 | 274.34 |
| SD | 5.004 | 4.944 | 9.413 | 8.675 | 0.564 | 0.363 | 68.098 | 112.353 |
| Variance | 25.04 | 24.443 | 88.605 | 75.256 | 0.318 | 0.132 | 4,637.3 | 12,623.2 |
| Kurtosis | 2.158 | 4.688 | 2.763 | 4.91 | 3.36 | 4.333 | 2.242 | 4.788 |
| Skewness | -0.935 | -2.126 | -1.405 | -2.206 | -1.622 | -2.005 | -0.942 | -2.164 |
| Jacq. Bera | 0.876 | 4.362 | 1.656 | 4.815 | 2.22 | 3.721 | 0.859 | 4.569 |
| Minimum | 4.06 | 9.75 | 9.39 | 18.00 | 0.80 | 0.64 | 61.40 | 222.21 |
| Maximum | 13.95 | 12.42 | 25.10 | 20.36 | 1.50 | 0.92 | 192.43 | 274.34 |

**Source: Researchers' Study (2018)**

From Table 9 the mean value in % of the company for ROA and ROE as measures of performance stood at 8.62% and 17.81% before the inclusion of human asset, both increased to 10.88% and 19.31% when human asset was recognized. EPS also increased from 119.06k to 248.51k. All these point to improved performance as a result of reversing human resource expenses attributable to future period from the incomes for the periods. The minimum value of the indices ranges from 4.06% (ROA) to 9.39% (ROE) while the maximum were 13.95% and

 

25.10% respectively pre HRA as against 9.75%, 18.00% (min) and 12.42% and 20.36% (max) respectively for post-HRA. The leverage parameters reduced all through resulting from the inclusion of reserve for future human assets in the equity not equally matched by the value of deferred tax on human asset included in non-current liabilities. The skewness of the data series indicates an asymmetric or non-normal data distribution as the series relatively deviate from normality maintaining negative skewness. The Kurtosis statistics equally show that pre-ROA, pre-ROE and pre-EPS are all platokurtic in nature as they both reflect lower levels than 3, which is the threshold for normal distribution. On the other hand, all the post-HRA parameters including pre-HRA leverage were leptokurtic as they are above 3, the threshold. Jacque Bera test results also indicate non-normality of almost all the parameters, we therefore reject the null and accept the alternate hypothesis and conclude that the difference in the means of all the parameters before and after capitalization of human assets are statistically significant.

**Table 10: Descriptive Measures for Financial Ratios- Dangote Cement Nig. Plc**

| | ROA | | ROE | | Gearing | | EPS | |
|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post |
| Mean | 19.50 | 13.96 | 31.77 | 22.53 | 0.64 | 0.62 | 10.08 | 7.93 |
| Median | 23.86 | 15.78 | 36.58 | 24.05 | 0.53 | 0.69 | 11.81 | 8.92 |
| SD | 9.24 | 6.341 | 14.737 | 10.128 | 0.291 | 0.281 | 4.645 | 3.688 |
| Variance | 85.378 | 40.208 | 217.179 | 102.576 | 0.085 | 0.079 | 21.576 | 13.601 |
| Kurtosis | 3.986 | 4.705 | 4.327 | 4.902 | 4.568 | 4.623 | 4.441 | 4.289 |
| Skewness | -1.873 | -2.134 | -2.003 | -2.203 | -2.093 | -2.111 | -2.041 | -2.011 |
| Jacq. Bera | 3.124 | 4.40 | 3.709 | 4.797 | 4.161 | 4.264 | 3.904 | 3.717 |
| Minimum | 16.20 | 12.44 | 26.95 | 21.03 | 0.53 | 0.52 | 8.51 | 6.00 |
| Maximum | 23.86 | 15.78 | 36.58 | 24.05 | 0.72 | 0.69 | 11.81 | 8.92 |

**Source: Researchers' Study (2018)**

In Table 10 the mean value in % of the company for ROA and ROE as measures of performance stood at 19.5% and 31.77% before the inclusion of human asset, both reduced to 13.96% and 22.53% when human asset was recognized. EPS also reduced from 10.08k to 7.93k. The minimum value of the indices ranges from 16.20% (ROA) to 26.95% (ROE) while the maximum were 23.86% and 36.58% respectively pre HRA as against 12.44%, 21.03% (min) and 15.78% and 24.05% (max) respectively for post-HRA. The leverage parameters revealed mixed positions as some reduced while some increased. The skewness of the data series indicates an asymmetric or non-normal data distribution as the series relatively deviate from normality maintaining negative skewness. The Kurtosis statistics equally show that all the parameters were leptokurtic as they are above 3, the threshold. Jacque Bera test results also indicate non-normality of almost all the parameters, we therefore reject the null and accept the alternate hypothesis and conclude that the difference in the means of all the parameters before and after capitalization of human assets are statistically significant.

**Table 11: Descriptive Measures for Financial Ratios- Fan Milk Limited, Ghana**

| | ROA | | ROE | | Gearing | | EPS | |
|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post |
| Mean | 21.24 | 19.25 | 33.18 | 28.08 | 0.56 | 0.46 | 24.46 | 38.16 |
| Median | 21.45 | 18.90 | 28.42 | 25.10 | 0.32 | 0.33 | 18.69 | 29.46 |
| SD | 10.823 | 8.991 | 17.45 | 13.404 | 0.289 | 0.219 | 14.837 | 21.914 |
| Variance | 117.137 | 80.838 | 304.503 | 179.667 | 0.084 | 0.048 | 220.137 | 480.223 |
| Kurtosis | 3.098 | 4.218 | 2.754 | 3.879 | 2.917 | 3.813 | 2.019 | 2.273 |
| Skewness | -1.576 | -1.983 | -1.427 | -1.844 | -1.446 | -1.811 | -0.624 | -0.771 |
| Jacq. Bera | 2.071 | 3.587 | 1.71 | 2.995 | 1.744 | 2.871 | 0.525 | 0.605 |
| Minimum | 12.14 | 14.55 | 18.57 | 21.05 | 0.32 | 0.33 | 12.95 | 25.37 |
| Maximum | 28.17 | 21.89 | 44.09 | 34.66 | 0.78 | 0.58 | 42.78 | 64.31 |

**Source: Researchers' Study (2018)**

Table 11 reveal that the mean value in % of the company for ROA and ROE as measures of performance stood at 21.24% and 33.18% before the inclusion of human asset, both reduced to 19.25% and 28.08% when human asset was recognized. The minimum value of the indices ranges from 12.14% (ROA) to 18.57% (ROE) while the maximum were 28.17% and 44.09% respectively pre HRA as against 14.55%, 21.03% (min) and 21.89% and 34.66% (max) respectively for post-HRA. The leverage parameters showed mixed result. The skewness of the data series indicates an asymmetric or non-normal data distribution as the series relatively deviate from normality maintaining negative skewness. The Kurtosis statistics equally show that both pre-ROE, pre-leverage and pre-and post-EPS are all platokurtic in nature as they both reflect lower levels than 3, which is the threshold for normal distribution. On the other hand, all the post-HRA parameters including pre-ROA were leptokurtic as they are above 3, the threshold. Jacque Bera test results also indicate non-normality of almost all

 

the parameters, we therefore reject the null and accept the alternate hypothesis and conclude that the difference in the means of all the parameters before and after capitalization of human assets are statistically significant.

**Table 12: Descriptive Measures for Financial Ratios- PZ Cussons Ghana**

| | ROA | | ROE | | Gearing | | EPS | |
|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post | Pre | Post |
| Mean | 1.73 | 5.51 | 2.55 | 9.86 | 1.30 | 0.91 | 0.67 | 3.86 |
| Median | 10.78 | 11.91 | 20.06 | 19.67 | 0.86 | 0.65 | 4.68 | 7.60 |
| SD | 4.87 | 4.236 | 9.775 | 6.906 | 0.705 | 0.478 | 2.22 | 2.753 |
| Variance | 23.717 | 17.944 | 95.551 | 47.693 | 0.497 | 0.228 | 4.928 | 7.579 |
| Kurtosis | 2.593 | 1.704 | 2.397 | 1.735 | 2.537 | 2.782 | 2.43 | 1.593 |
| Skewness | 1.039 | 0.087 | 0.81 | -0.139 | -1.088 | -1.25 | 0.867 | -0.231 |
| Jacq. Bera | 0.934 | 0.356 | 0.622 | 0.350 | 1.03 | 1.311 | 0.694 | 0.457 |
| Minimum | -2.67 | 2.03 | -8.07 | 4.78 | 0.86 | 0.65 | -1.63 | 1.59 |
| Maximum | 10.78 | 11.91 | 20.06 | 19.67 | 2.02 | 1.36 | 4.68 | 7.60 |

**Source: Researchers' Study (2018)**

Table 12 shows that PZ Cussons presents a mixed result in the period under review. Only post-ROE, pre and post-Leverage and post-EPS indicate asymmetric or non-normal data distribution as the series relatively deviate from normality maintaining negative skewness. The Kurtosis statistics of the indices are all platokurtic in nature as they both reflect lower levels than 3, which is the threshold for normal distribution. Jacque Bera test results also indicate non-normality of almost all the parameters, we therefore reject the null and accept the alternate hypothesis and conclude that the difference in the means of all the parameters before and after capitalization of human assets are statistically significant.

### 4.2 Test of Equality between means of two groups: ANOVA

This section shows the trends and ANOVA test results for each pair of financial ratio computed before and after. The probability value of the f-test is shown on the ANOVA test table.

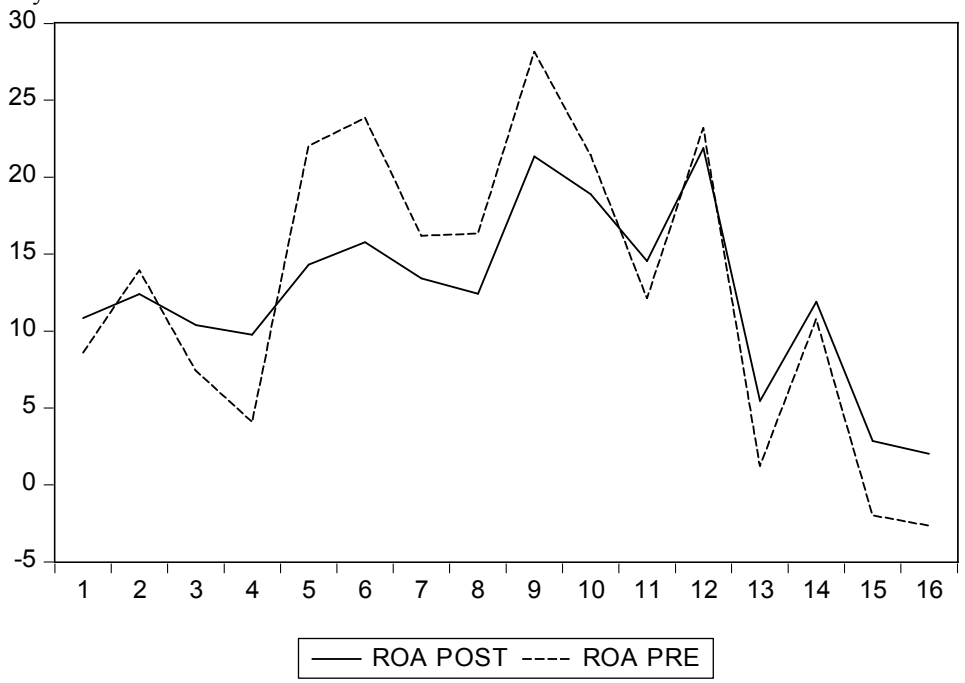


**Fig. 1: Trends of ROA pre and post Human Assets capitalization**
**Source: Researchers' Study (2018)**

**TABLE 13: ANOVA test result of ROA pre and post Human Assets capitalization**

| | NIGERIA | | GHANA | | TOTAL | |
|---|---|---|---|---|---|---|
| Method | Value | Prob | Value | Prob | Value | Prob |
| Anova F-test | 0.400407 | 0.5371 | 0.026040 | 0.8741 | 0.020931 | 0.8859 |

**Source: Researchers' Study (2018)**

In table 13 the probability of the ANOVA f-test stood at 0.5371 for sampled firms in Nigeria, 0.8741 for sampled firms in Ghana; and 0.8859 for the combination of the firms. These are all higher than the 5% level of

 

significance acceptable for this study. Therefore, the null hypothesis that there is no significant difference in the means of Return of Asset (ROA) before and after the capitalization of human asset is accepted. Also, Figure 1 shows the similarities in the trends of ROA pre and post human asset capitalization.

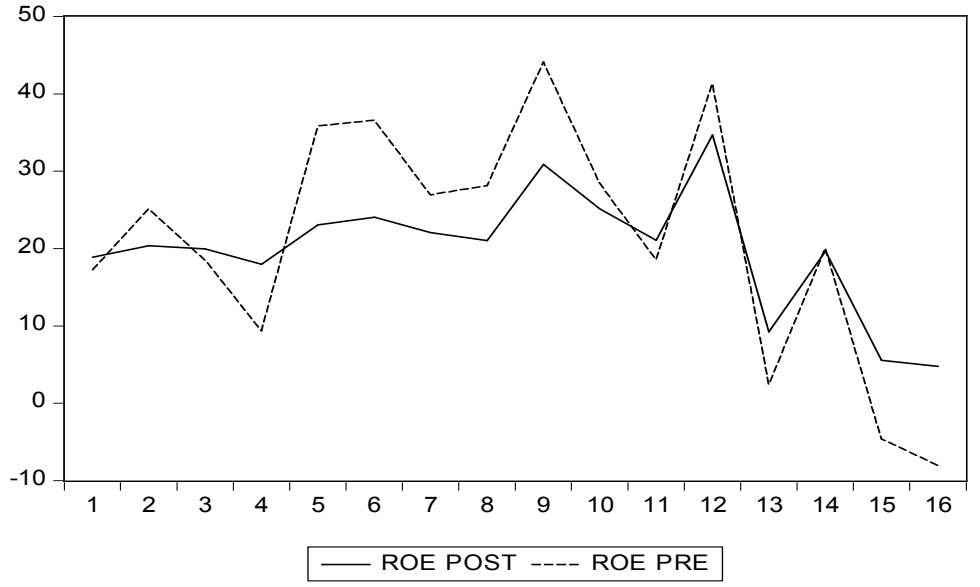


**FIGURE 2: Trends of ROE pre and post Human Assets capitalization**
**Source: Researchers' Study (2018)**

**TABLE 14: ANOVA test result of ROE pre and post Human Assets capitalization**

| | NIGERIA | | GHANA | | TOTAL | |
|---|---|---|---|---|---|---|
| Method | Value | Prob | Value | Prob | Value | Prob |
| Anova F-test | 1.256760 | 0.2811 | 0.018067 | 0.8950 | 0.096672 | 0.7580 |

**Source: Researchers' Study (2018)**

In Table 14 the probability of the ANOVA f-test stood at 0.2811 for sampled firms in Nigeria, 0.8950 for sampled firms in Ghana and 0.7580 for the combination of the firms. These are all higher than the 5% level of significance acceptable for this study. Therefore, the null hypothesis that there is no significant difference in the means of Return of Equity (ROE) prior to and after capitalizing human resources benefit is accepted. Also, Figure 2 shows the similarities in the trends of ROE pre and post human asset capitalization.


**FIGURE 3: Trends of Gearing ratio pre and post Human Assets capitalization**
**Source: Researchers' Study (2018)**

 

**TABLE 15: ANOVA test result of Gearing pre and post Human Assets capitalization**

| | NIGERIA | | GHANA | | TOTAL | |
|---|---|---|---|---|---|---|
| Method | Value | Prob | Value | Prob | Value | Prob |
| Anova F-test | 2.175277 | 0.1624 | 1.173622 | 0.2970 | 3.017296 | 0.0926 |

**Source: Researchers' Study (2018)**

From Table 15, the probability of the ANOVA f-test stood at 0.1624 for sampled firms in Nigeria, 0.2970 for sampled firms in Ghana and 0.0926 for the combination of the firms. These are all higher than the 5% level of significance acceptable for this study. Therefore, the null hypothesis that the reported means of leverage of capitalized HRA and non-capitalized HRA do not differ significantly is accepted. Also, Figure 3 shows the similarities in the trends of gearing pre and post human asset capitalization.

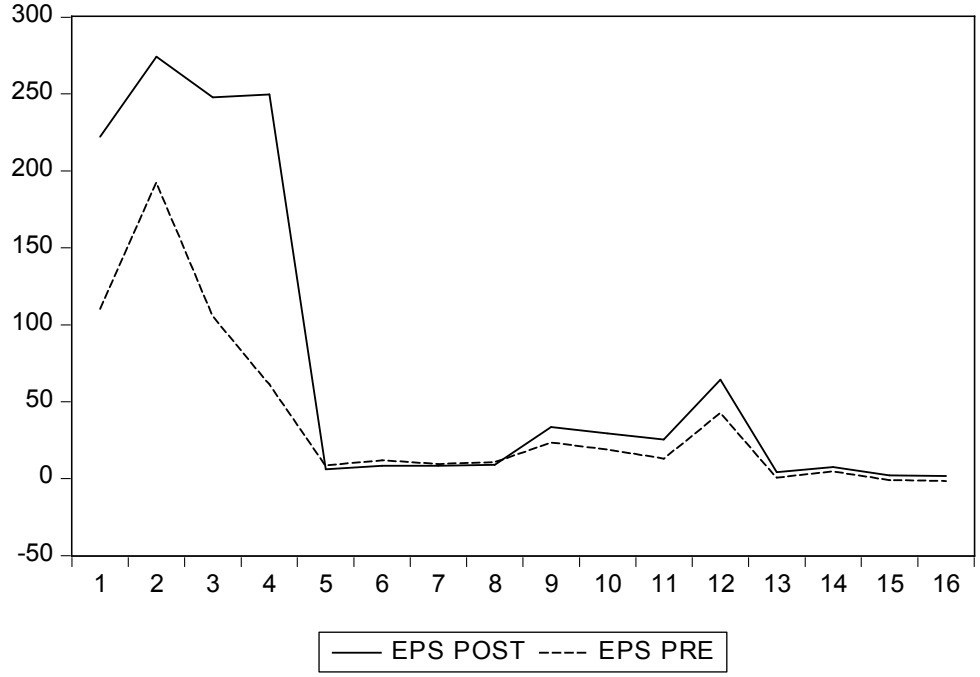


**FIGURE 4: Trends of EPS ratio pre and post Human Assets capitalization**
**Source: Researchers' Study (2018)**

**TABLE 16: ANOVA test result of EPS pre and post Human Assets capitalization**

| | NIGERIA | | GHANA | | TOTAL | |
|---|---|---|---|---|---|---|
| Method | Value | Prob | Value | Prob | Value | Prob |
| Anova F-test | 1.560821 | 0.2320 | 0.804372 | 0.3850 | 1.515494 | 0.2279 |

**Source: Researchers' Study (2018)**

From Table 16, the probability of the ANOVA f-test stood at 0.2320 for sampled firms in Nigeria, 0.3850 for sampled firms in Ghana and 0.2279 for the combination of the firms. These are all higher than the 5% level of significance acceptable for this study. Therefore, the null hypothesis that there is no significant difference between the means of reported EPS prior to and after the capitalization of human asset is accepted. Also, Figure 4 shows the similarities in the trends of EPS pre and post human asset capitalization.

### 4.3 Conclusion

The study espoused the need for the inclusion of human asset in firm's financial statement to align with the treatment of other factors of production (materials, money and machines) that are already balance sheet item as distinct from human effort that is presently being treated as expenses in the statement of profit or loss. A rework of the financial reports of selected companies, using Lev and Schwartz model, results in higher assets value of all the selected firms from 2012 to 2015, confirming the assertion that inclusion of human assets would reveal the actual position of the firm.

The effect of non-inclusion of human assets is the undervaluation of the firms thus reducing the quality of financial reporting as they are not complying with the fundamental qualitative characteristic of faithful representation expected of them by Conceptual Framework to Financial Reporting specified by IASB. From the analysis, the ANOVA reveals higher f-stat (p-val) than 5% significant levels for all the financial indices (ROA, ROE, LEV and EPS) we therefore concluded in favour of the null hypotheses for all of them as the computation reveals no significant differences between the means of those indices prior to and after capitalizing human assets.

 

However, the result of the descriptive statistics for most of the indices reveal that Kurtosis statistics are platokurtic in nature as they reflect lower levels than 3, the treshold for normal distribution. This was also confirmed by the result of Jacque Bera test, which indicate non-normality of almost all the parameters, thereby rejecting the null and accepting the alternate hypothesis and conclude that the difference in the means of all the parameters for all the companies before and after capitalisation of human assets is statistically significant.

**5.0 Recommendation**

Considering the positive impact of inclusion of human assets in the financial statement of organisations we recommend that accounting standard setters, most especially IASB, should set in motion, the necessary exposure draft on human resource accounting. All necessary details should be fully discussed so as to bring about an enduring accounting standard on the subject. Few Sub-Sahara African states that had not converged to IFRS should also set in motion the procedure for introducing human resource assets into their financial reporting. Necessary legislative procedures should also be undertaking by the National Assemblies of all the countries, so as to give the policy the required legal backing.

**References**

Afolabi, S. O. (2014). Human resource accounting and disclosure in financial statements: Literature review. *Research Journal of Finance and Accounting,* 5(22), 64-75.

Akintoye, I.R., Olowolaju, P.S., & Odewusi, O.O. (2014). Accounting for human asset in the Statement of Financial Position: How realistic is the Lev & Schwartz model? *British Journal of Arts and Social Sciences, 20*(2), 67-87

Akintoye, I. R. (2016). *Investment decisions in the 21st Century.* Unique Educational Publisher. Lagos Nigeria.

American Accounting Association. (1973). Committee report on human resource accounting. The Accounting Review, XLVIII, 1 Supplement.

Anton, H.R., Firmin, P.A., & Grove, H.D. (1978). *Contemporary issues in Cost and Management Accounting*. Boston: Houghton Miffling company.

Becker, G.S. (1964). Human Capital: *A Theoretical and Empirical Analysis, with special reference to Education*. New York: NBER.

Bhovi, B. (2016). A study of human resources accounting models and practices in organisation. *GE-International Journal of Management Research 4*(9), 22-37.

Brummet, R.L., Flamholtz, E.G., & Pyle, W.C. (1968). Human Resource measurement: A challenge for accountants. *Accounting Review*, 217-224.

Brummet, R.L., Flamholtz, E.G., & Pyle, W.C. (1969). Human Resource Accounting: A tool to increase managerial effectiveness. *Management Accounting*, 12-15.

Bullen, M. L., & Eyler, K. (2013). Human resource accounting and international developments: implications for measurement of human capital. *Journal of International Business and Cultural Studies,* 1, 1-16.

Falayi, O.R., & Falayi, I. (2011). Improving human resource accounting through International Financial Reporting Standards. Research *Journal of Finance and Accounting, 5(22)*, 83-89

Flamholtz, E.G. (1969). *The theory and measurement of an individual's value to an organisation*. Unpublished PhD dissertation, University of Michigan.

Flamholtz, E.G. (1999). *Human Resource Accounting: Advances, concepts, methods and applications*. Boston, MA: Kluwer Academic Publishers.

Hansen UK. (2010). *Sustainability Report 2010*. Maidenhead, UK: Hansen Inc

Heckiman, J. S., & Jones, C. (1967). Put people on your Balance Sheet. *Harvard Business Review, 43(2)*, 105-113.

Hermanson, R.H. (1964). Accounting for human assets. *Occasional paper 14,* East Lansing. MI: Bureau of Business and Economic Research, Michigan State University.

Hermanson, R.H. (1986). Accounting for human assets. *Research Monograph No. 99*. Atlanta Georgia: Georgia State University.

International Accounting Standard Board (2008). *Conceptual framework to financial reporting.* London, IASB.

Ikpefun, O.I., Kazeem, B.L.O., & Taiwo, J.N. (2015). Human capital accounting and performance of microfinance banks in Nigeria. *Research Journal of Finance and Accounting, 6(*1), 65-75.

Kassem, R. (2012). Earning Management and Financial Reporting Fraud: Can External Auditors Spot the Difference? *American Journal of Business and Management*, 1(1), 30-33.

Kermis, G.F., & Kermis, M.D. (2011). Financial reporting regulations, ethics and accounting Education. *Journal of Academic and Business Ethics*.

Lev, B., & Schwartz, B.A. (1971). On the economic concept of human capital in financial statements. The Accounting Review, 102-112

Likert, R.M. (1961). *New patterns of Management*. New York, NY: McGraw Hill Book.

 

Locke, E.A. (1965). Towards a theory of task motivation and incentive. *Organisations Behaviour and Human Performance, 3*, 157-189.

Morse, W.J. (1973). A note on the relationship between human assets and human capital. The Accounting Review, July, 589-593.

Nwachukwu, J. N. (2015). *Conceptual theoretical frameworks for analysing social and political phenomena*. In J.N. Nwachukwu, A.O. Ogundiwin and A.N. Nwaobia (Eds.), Anthology of theories and their applications in Social and Management Sciences, (257-278). Lagos. Jamiro Press Link.

Ogenyi, M.A., & Oladele, K.O. (2015). Human resource accounting in Nigeria: An analysis of challenges. *Research Journal of Finance and Accounting, 6*(22), 15-20.

Schuler, R.S., & Macimillan, I.C. (1984). Gaining competitive advantage through human resources management. *Journal of Human Resource Management, 23(3)*, 241-255.

Shultz, T.W. (1961). Investment in Human Capital, *American Economic Review, 51*, 1-17

Vroom, V. (1964). Work and Motivation. New York, NY: Wiley

**Annual Reports**

Cadbury Nigeria Plc as at 31-12-2012; 31-12-2013; 31-12-2014 & 31-12-2015

Dangote Cement Plc as at 31-12-2012; 31-12-2013; 31-12-2014 & 31-12-2015

Fan Milk Limited as at 31-12-2012; 31-12-2013; 31-12-2014 & 31-12-2015

PZ Cusson Ghana Ltd as at 31-12-2012; 31-12-2013; 31-12-2014 & 31-12-2015

**APPENDIX**

Test for Equality of Means Between Series
Date: 12/07/16 Time: 15:56
Sample: 1 16
Included observations: 16

| Method | Df | Value | Probability |
|---|---|---|---|
| t-test | 30 | -0.144675 | 0.8859 |
| Satterthwaite-Welch t-test* | 24.56316 | -0.144675 | 0.8861 |
| Anova F-test | (1, 30) | 0.020931 | 0.8859 |
| Welch F-test* | (1, 24.5632) | 0.020931 | 0.8861 |

*Test allows for unequal cell variances

Analysis of Variance

| Source of Variation | Df | Sum of Sq. | Mean Sq. |
|---|---|---|---|
| Between | 1 | 1.302042 | 1.302042 |
| Within | 30 | 1866.204 | 62.20681 |
| Total | 31 | 1867.506 | 60.24214 |

Category Statistics

| Variable | Count | Mean | Std. Dev. | Std. Err. of Mean |
|---|---|---|---|---|
| SER01 | 16 | 12.39395 | 5.739374 | 1.434843 |
| SER05 | 16 | 12.79738 | 9.564163 | 2.391041 |
| All | 32 | 12.59567 | 7.761581 | 1.372067 |

 

Test for Equality of Means Between Series
Date: 12/07/16 Time: 15:57
Sample: 1 16
Included observations: 16

| Method | Df | Value | Probability |
|---|---|---|---|
| t-test | 30 | -0.310921 | 0.7580 |
| Satterthwaite-Welch t-test* | 22.47163 | -0.310921 | 0.7587 |
| Anova F-test | (1, 30) | 0.096672 | 0.7580 |
| Welch F-test* | (1, 22.4716) | 0.096672 | 0.7587 |

*Test allows for unequal cell variances

Analysis of Variance

| Source of Variation | Df | Sum of Sq. | Mean Sq. |
|---|---|---|---|
| Between | 1 | 14.59863 | 14.59863 |
| Within | 30 | 4530.354 | 151.0118 |
| Total | 31 | 4544.952 | 146.6114 |

Category Statistics

| Variable | Count | Mean | Std. Dev. | Std. Err. of Mean |
|---|---|---|---|---|
| SER02 | 16 | 19.89568 | 7.975287 | 1.993822 |
| SER06 | 16 | 21.24654 | 15.44080 | 3.860201 |
| All | 32 | 20.57111 | 12.10832 | 2.140468 |

Test for Equality of Means Between Series
Date: 12/07/16 Time: 15:58
Sample: 1 16
Included observations: 16

| Method | Df | Value | Probability |
|---|---|---|---|
| t-test | 30 | -1.737037 | 0.0926 |
| Satterthwaite-Welch t-test* | 23.44838 | -1.737037 | 0.0955 |
| Anova F-test | (1, 30) | 3.017296 | 0.0926 |
| Welch F-test* | (1, 23.4484) | 3.017296 | 0.0955 |

*Test allows for unequal cell variances
Analysis of Variance

| Source of Variation | Df | Sum of Sq. | Mean Sq. |
|---|---|---|---|
| Between | 1 | 0.380399 | 0.380399 |
| Within | 30 | 3.782183 | 0.126073 |
| Total | 31 | 4.162582 | 0.134277 |

Category Statistics

| | | | | Std. Err. |
|---|---|---|---|---|

 

| Variable | Count | Mean | Std. Dev. | of Mean |
|---|---|---|---|---|
| SER03 | 16 | 0.691700 | 0.243787 | 0.060947 |
| SER07 | 16 | 0.909760 | 0.438991 | 0.109748 |
| All | 32 | 0.800730 | 0.366438 | 0.064778 |

Test for Equality of Means Between Series
Date: 12/07/16 Time: 15:58
Sample: 1 16
Included observations: 16

| Method | Df | Value | Probability |
|---|---|---|---|
| t-test | 30 | 1.231054 | 0.2279 |
| Satterthwaite-Welch t-test* | 22.43479 | 1.231054 | 0.2311 |
| Anova F-test | (1, 30) | 1.515494 | 0.2279 |
| Welch F-test* | (1, 22.4348) | 1.515494 | 0.2311 |

*Test allows for unequal cell variances

Analysis of Variance

| Source of Variation | Df | Sum of Sq. | Mean Sq. |
|---|---|---|---|
| Between | 1 | 10637.68 | 10637.68 |
| Within | 30 | 210578.5 | 7019.282 |
| Total | 31 | 221216.2 | 7136.005 |

Category Statistics

| Variable | Count | Mean | Std. Dev. | Std. Err. of Mean |
|---|---|---|---|---|
| SER04 | 16 | 74.62106 | 105.3345 | 26.33362 |
| SER08 | 16 | 38.15587 | 54.25135 | 13.56284 |
| All | 32 | 56.38846 | 84.47488 | 14.93319 |