Human Resource Accounting and Firm Performance
P. O. OKPAKO* E.N. ATUBE & O.H. OLUFAWOYE
* Corresponding Author

Abstract
The aim of this study is to determine the relationship between human resource accounting and firm performance. This paper conducted a survey on seven (7) companies quoted on the Nigeria Stock Exchange. The study used primary data and secondary data. 260 questionnaires were distributed and 246 questionnaires were retrieved on the companies targeted at the staffs of human resource, accounting, and audit/ internal control departments which were considered to be the relevant departments for this study. Following the collection of completed questionnaires, the study adopted the principle component analysis to quantify the responses obtained so as to obtain a series which captured the composite value of the human resource accounting variable. It also adopted firm performance indicator (ROE) over the period 2006-2010. The study reveals that human resource accounting variables impacted positively to the level of firm performance.

Keywords: Human resource accounting, Training and development, safety, welfare and firm performance.

Introduction
The effective and efficient use of the physical assets largely depends on the skills, ability, quality, perception and character of the employees (Knauf, 2011). America Accounting Association (1973) define Human Resource Accounting (HRA) as the process of identifying and measuring data concerning human resource and communicating this information to interest parties. Historically, human resource accounting was first proposed in the 1960’s in the attempt of including employees on the balance sheet and it became a known topic of research in the 1970s.

Flamholz (1999) states that HRA has main roles; to encourage decision makers to accept HRA and to provide firms with information concerning the cost of employees. In spite of research in this area, HRA is not widely accepted in practice due to some reasons. These include questions as to whether it is proper to measure employees, whether employee can be measure as an asset.

Training employees is part of human resources framework. Firms also has to leverage the capabilities and skills of its employees by encouraging individual learning and creating a helpful environment in which knowledge can be created shared and applied firms goals (Appah, Tebepah and Soreh, 2012)

Performance of firm measure the percentage of turnover resulting from firm products, return on asset (ROA), return on equity (ROE) and earning per share (EPS).

Research Problem
The most vital assets of any firm is its employees because all activities of organisation that determine performance depends on the effort of the employees. Hence, it is difficult for firms to measure data relating to human resource. One of the problems is determining the impact of human resource accounting on employee level outcome such as absenteeism and task performance. These negate the emphasis of macro-level performance outcome that is measured by return on equity. This gap is what we intend to bridge with the present study. Hence, this research is expected to answer the following questions.
1. What is the effect of training and development cost on firm performance?
2. What influence does the cost of providing shelter have on firm performance?
3. What is the relationship between cost of safety and health employee’s commitment and firm performance?

Research Objectives
In the light of preceding research gaps, this study aim is to examine the relationship between human resource accounting and firm performance in Nigeria. Specifically, the objectives of the study are to:
1. Investigate the impact of training and development cost on firm performance.
2. Determine the relationship between cost of providing shelter and firm performance.
3. Ascertain the relationship between cost of safety and health employee’s and firm performance.

Research Hypotheses
Based on the research objectives of the study, the following hypotheses emerge and they will be tested in a null form.
H01: Training and development cost does not affect firm performance
H02: There is no significant relationship between cost of providing shelter and firm performance.
H03: Cost of safety and health employee’s does not significantly determine firm performance.

Literature Review
Firm Performance
Performance is the process of functioning in a stipulated predetermined manner and achieving the expected results within its framework. Performance can measure in terms of effectiveness and efficiency, personal data such as measures of accidents, turnover, absence and tardiness (Ratti, 2012).

Saeed, Shekoofeh, and Mahnaz (2013) investigated relationship between HR and value added efficiency of human capital with return on return on equity (ROE) as a firm performance measures. The result of the study shows that there is significant positive relationship between HR and value added efficiency of human capital with ROE.

Waiganjo, Mukulu and Kahiri (2012) opined that measuring of firm performance is not easy for organizations with various objectives of profitability, employee satisfaction, productivity, growth, social responsibility and ability to adjust to the ever changing environment among other objectives. They also assert that performance has been traditionally conceptualized in terms of financial measures, such as Return on Total Asset (ROTA) return on equity (ROE). Studies shows that HRA has direct and positive influence on firm performance using ROE as firm performance proxy (Wang and Chang 2005).

Human Resource Accounting

Several articles have been debated the importance of accounting HR in the organizational performance but still research are not conclusive that HR assets are important in creating value of organizations.

Training is one of the main function that directly contribute to the development of employees. Research also suggests that the organizations investing considerably in training justify their investment by the contribution training makes to improve individual and firm performance (McElroy, 2001; Khan, 2010; Batool and Batool, 2012).

Training and development cost being employed by organizations helps them to enhance employee skills and firm performance (Solkhe and Chaudhary, 2011; Delaney and Huselid 1996;). Rajashekharaiah (2014) assert that training and development is also attracting, developing, and retaining a diverse workforce that helps in providing the different skills required to maintain and improve the firm performance and Chow (2005) opined that training and development are the component of HPWSs. The components of training and development activities including formal training develop employee skills and impart knowledge beyond the current position off the job training .induction training program for new comers and training programs for present employees. In the work of Rajashekharaiah and Chow, they found that training is positively contributed to organizational performance.

Huselid (1995) examined the relationship between HR practices and firm performance. He surveyed senior HR executives in a sample of 968 publicly traded corporations in the US regarding the percentage of employees who were covered by a set of HR practices generally considered representative of a high-performance work system. He found that there is a positive influence between HR and organisation performance.

Moghaddam, Kakhaki and Pakdelan (2014), HPWS indeed affect employees’ performance by enhancing their knowledge, skills, behaviours and commitment, and empowering them to make a decision while performing their tasks. Shaira (2012) concluded that, country differences influence the practices of Human Resource. It is anticipated that there are similarities and differences in the extent of implementation of HPWSs practices by the Malaysian manufacturing firms due to the organizational contextual factors and, the HPWSs have a significant impact on firms’ better performance among firms. Rajashekharaiah (2014) recommend that if HPWS is well established it encourages employees’ performance and firm performance Providing opportunity for the employees to utilize their full potential by creating a high performance organization.

According to Roslender, Stevenson and Kahn (2006), it is a vital function of an employer to provide an atmosphere to the employees to perform their work in healthy, congenial climate conducive to good health and high morale. Some organizations make provisions for the safety and health of its employees. Based on the Organization safety and health rules, preventive measures have to be taken and provided for. Mainly, employees are to be given safety education, protection and regular enforcement. The burnout that is emotional and physical exhaustion caused due to various factors should be brought under control by job enrichment, smooth environment and other progressive activities. Jackson and Schuler (1995), examined employment security on firm performance the study revealed that there is a significant association between firms pursuing high and low innovation strategy and HR practices.

Methodology

Population/Scope of Study

This paper conducted a survey on seven (7) companies in Nigeria. These are; Guinness Nigeria Plc, Nigeria, breweries Plc, International breweries Plc, Ashaka cement Plc, Cement company Northern Nigeria Plc, Julius Berger Nigeria Plc and Roads Nigeria Plc. It also adopted firm performance indicator (ROE) over the period 2006-2010.

Instrument of Data Collection

The instrument for data collection were questionnaire designed on a 5 points likert scale and administered on the companies targeted at the staff of Human Resource, Accounting, and Audit/Internal Control departments which were considered to be the relevant departments for this study. A total number of 260 were distributed to solicit for responses on the subject matter.

Model Specification

In order to empirically ascertain the impact of human resource accounting on firm performance, the model below was specified;

\[ ROE = \Omega_h + \Omega_i HRA + \pi_t \]  
(1)

Where ROE = Return on Equity (a proxy for firm performance)


\( \pi_t \) = error term
\( \Omega_0, \Omega_1 > 0 \)

Method of Data Analysis
Following the collection of completed questionnaires, the study adopted the Principle Component Analysis to quantify the responses obtained so as to obtain a series which captured the composite value of the human resource accounting variable. Principal component analysis with varimax rotation was conducted to assess the underlying structure for the nineteen HR practices questionnaire. Principal component analysis (PCA) involves a mathematical procedure that transforms a number of (possibly) correlated variables into a (smaller) number of uncorrelated variables called principal components. The first principal component accounts for as much of the variability in the data as possible, and each succeeding component accounts for as much of the remaining variability as possible (Krzanowski 2000). Its application is an attempt to obtain modes that are simple to interpret. The result obtained is shown in Appendix 1.

Regression Analysis/Discussion
The table below shows the result obtained from our regression analysis:

<table>
<thead>
<tr>
<th>Dependent Variable: ROE</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.208303</td>
<td>0.217784</td>
<td>0.956464</td>
<td>0.3458</td>
</tr>
<tr>
<td>HRA</td>
<td>23.08714</td>
<td>5.478422</td>
<td>4.214196</td>
<td>0.0002</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.326974</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.302511</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>91.48242</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probf(F-statistic)</td>
<td>0.005793</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Econometric Result 2014
Table 1 above shows that human resource accounting significantly affects firm performance, as is indicated by the F-Ratio value of 91.48242, with \( R^2 \) value and the adjusted \( R^2 \) at 0.326974 and 0.302511 respectively. In this case, we reject null hypothesis because the \( p \) value is < 0.05.

The \( R^2 \) value of 0.326974 represents the rate of changes in firm performance that is accounted for by human resource accounting variables. Thus the result shows that human resource accounting contributes at least 32% to firm performance. This is satisfactory since a vast array of variable accounts for the level of a firm performance. A Durbin-Watson of 1.952116 shows the absence of autocorrection and its accompanying adverse effects.

As the table above also shows, human resource accounting which is the independent variable in the regression model stated above is 23.08714. This is clear indication that human resource accounting has a significant contribution to firm performance. In other words, human resource accounting variables impacted positively to the level of firm performance.

By implication, the findings as a whole suggest that a positive relationship exists between the firms’ HRA practices and firm growth achievements. This overall result corroborates previous empirical studies on the links between HRA and firm performance (Fariborz and Raiasheka, 2011; Okpala and Chidi, 2010; Cardon and Stevens, 2004; Givord and Maurin, 2004; Zhu, 2004). These findings provide valid tentative support of the contention that HRA can create a competitive advantage for a firm.

Conclusion and Recommendation
It has been established that HRA increases the asset of organizations thus enhancing more profit; equips management to make effective and efficient decision to move the organization forward; increases investment in organization because investors have the assurance of adequate use of their resources as a result of the value of human resource and gives shareholders and stakeholders adequate and sufficient information on the position of the organization which can also be used to determine the profitability and stability of such organization.

Various studies have provided extensive data on the positive relationship between HRA and organizational performance. This study has attempted to explicate this supposition with regard to drawing causal conclusions and to providing empirical data to explore some of these issues. Based on a comprehensive literature review, we hypothesized that the following HRA variables are positively related to firm growth: (a) Training and Development (b) Welfare Cost (c) Safety Cost. Empirical findings support the view that human resource accounting has facilitated the performance of firms.

While one could accurately interpret our results as showing HRA variables to be part of a “high performance” organization, they certainly do not provide proof that these variables cause that high performance.

Consequently, our study points to the need to design and conduct studies that are better able to examine the extent to which implementing progressive HRA variables will result in improved operating and financial performance.

In the same vein, in order to boost firm performance, it has become imperative for firms to adopted viable human resource accounting variables in their operations. Firms should ensure that the relevant training and retraining packages designed for performance improvement is well embraced by all employees for better performance on the job; organizations should avoid undervaluation of employees as it has negative effect on the morale of the employees, which can affect their productivity; and most importantly, human resource value should be ascertained and introduced to the balance sheet as intangible or intermediate asset as it increases the asset of organizations.

References


APPENDIX 1

Principal Components Analysis
Date: 06/17/14   Time: 01:56
Sample: 2006 2010
Included observations: 35
Computed using: Ordinary correlations
Extracting 2 of 4 possible components
Maximum number of components: 2

Eigenvalues: (Sum = 4, Average = 1)

<table>
<thead>
<tr>
<th>Number</th>
<th>Value</th>
<th>Difference</th>
<th>Proportion</th>
<th>Cumulative Value</th>
<th>Cumulative Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.364962</td>
<td>0.041192</td>
<td>0.3412</td>
<td>1.364962</td>
<td>0.3412</td>
</tr>
<tr>
<td>2</td>
<td>1.323769</td>
<td>0.600783</td>
<td>0.3309</td>
<td>2.688731</td>
<td>0.6722</td>
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</tbody>
</table>

Eigenvectors (loadings):

<table>
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<tr>
<th>Variable</th>
<th>PC 1</th>
<th>PC 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFE</td>
<td>-0.248410</td>
<td>0.652315</td>
</tr>
<tr>
<td>TD</td>
<td>0.700209</td>
<td>0.167531</td>
</tr>
<tr>
<td>WEL</td>
<td>0.479080</td>
<td>-0.466263</td>
</tr>
</tbody>
</table>

Ordinary correlations:

<table>
<thead>
<tr>
<th></th>
<th>SAFE</th>
<th>TD</th>
<th>WEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFE</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TD</td>
<td>-0.077571</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>WEL</td>
<td>-0.254982</td>
<td>0.175599</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Dependent Variable: ROE
Method: Panel Least Squares
Date: 06/17/14   Time: 02:00
Sample: 2006 2010
Periods included: 5
Cross-sections included: 7
Total panel (balanced) observations: 35

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
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<td>5.478422</td>
<td>4.214196</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

R-squared | 0.326974  | Mean dependent var | 27.12286 |
Adjusted R-squared | 0.302511  | S.D. dependent var | 20.64628 |
S.E. of regression | 20.67219 | Akaike info criterion | 8.950901 |
Sum squared resid | 14102.20  | Schwarz criterion | 9.039778 |
Log likelihood | -154.6408 | Hannan-Quinn crit. | 8.981581 |
F-statistic | 91.48242  | Durbin-Watson stat | 1.952116 |
Prob(F-statistic) | 0.005793 |                |        |
APPENDIX 2

Questionnaire on Human Resource Accounting and Firm Performance

Keys: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Training and development cost are incurred in order to improve Firm performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Delegate fees and travel cost are incurred in order to improve employee performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Information sharing enables firm performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The cost of providing shelter affects firm performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Employees go through training programs in order to update their skills, knowledge, attitudes or social behaviour and improve their performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Safety and health of the workers promote employee’s commitment and firm performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Employees receive compensation for outstanding Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Training and re-training improve employee’s skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Training help employee to increase job performance on productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX 3

Names of Firms

<table>
<thead>
<tr>
<th>BREWERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Guinness Nigeria Plc</td>
</tr>
<tr>
<td>2  Nigeria breweries Plc</td>
</tr>
<tr>
<td>3  International breweries Plc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUILDING AND CONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4  Ashaka cement Plc</td>
</tr>
<tr>
<td>5  Cement company Northern Nigeria Plc</td>
</tr>
<tr>
<td>6  Julius Berger Nigeria Plc</td>
</tr>
<tr>
<td>7  Roads Nigeria Plc</td>
</tr>
</tbody>
</table>