DETERMINANTS OF HUMAN CAPITAL ACCOUNTING IN NIGERIA

EKUNDAYO, Olugbenga Uke (Ph.D)
Lecturer: Department of Management Studies,
Middle East University, Oman.
Correspondence: Gbenga @ mec.edu.om ,
+2348033975404,+96896651970

And

ODHIGU,Festus
Lecturer: Department of Management Studies, Middle East University, Oman.
Correspondence: Festus@mec.edu.om, +96899684228

ABSTRACT

The broad objective of this study was to investigate the determinants of human capital accounting in Nigeria. Secondary data was used for the study and the data were sourced from the annual reports of 30 companies listed on the Nigerian stock exchange (NSE) fact-book as at 31st December, 2014. Pooled data research design was adopted in this study while the ordinary least square regression technique was used to test the relationship between the variables. The study revealed that size of employee has a significant impact on human capital accounting.. Also this study reveals that welfare and training cost has a significant impact on human capital in Nigeria. The study recommends that size of employee would impact positively on the efficiency, sustainability and profitability of the firm. Lastly, training of staff both locally and internationally should be taken into consideration because it will help to expose them to current developments in there area of specialization.

Keywords: Human capital, Human capital theory, Human capital determinants.

1.0. INTRODUCTION

Studies that relate the talents, skills and knowledge of a company's work force are referred to as human capital studies. Numerous empirical studies have appeared in recent years concerning human capital accounting in some developed and developing economies (see for example Jeroh 2013, Dean, mckenna and Krishnan, 2012, and Okpala and chidi, 2010). While many of those studies have provided empirical evidence suppo rting human capial accounting and its effects on financial statements, there are dissenters who have deviated from the view of those researchers such as Verma and Dave (2008), kumshe (2012), and Bontis and fitzenz (2002).

These criticisms were based on theory of human capital, stakeholder, general system theory and transaction cost economy theory(Jeroh,2013, and Bassey and Tapang, 2012). While the majority of the studies previously cited on the subject matter were carried out in very advanced and developing countries , only few were done in underdeveloped economies like that of Nigeria, which is located in sub-Saharan Africa. To this end, the broad objective of this study is to investigate the determinants of human capital accounting in Nigeria.

The specific objectives were to:

i.   Examine the extent to which salaries paid to employees affects human capital accounting in Nigeria.

ii.   Investigate welfare and training cost and its impact on human capital accounting in Nigeria.

iii.   Ascertain the impact of size of employees and its impact on human capital accounting in Nigeria.

1.1 RESEARCH QUESTIONS

This study attempts to provide answers to the following research questions:

i.   To what extent is the relationship between salaries paid to employees and human capital accounting in Nigeria?

ii.   What is the relationship between welfare and training cost and its impact on human capital accounting in .Nigeria?

iii.   What is the relationship between size of employees and human capital accounting in Nigeria?

1.2. RESEARCH HYPOTHESES

Flowing from the research questions and research objectives the following null hypotheses were tested.

$H_{01:}$ Salaries of employees have no significant impact on human capital accounting in Nigeria

H_{o2}:   welfare and training cost of staff has no significant impact on human capital accounting in Nigeria.

H_{o3}:   Size of employees has no significant impact on human capital accounting in Nigeria.

This study is significant for a number of reasons, among which is the need to update the existing body of knowledge by going a step forward in filling many of the obvious gaps in the controversy of human capital accounting in the developing and emerging economies (Nigeria inclusive). It is therefore also expected that the study will be of immense benefit to future researchers, the public and members of the academia.

Besides, it is hoped that the study will lay the foundation for other academia and research students (both home and abroad) to know what evidence exists in emerging economies concerning the determinants of human capital accounting. Thus, it is hoped, will significantly aid them in carrying out further research in this rather controversial and contentious area of finance and accounting.

The remaining part of the paper is structured as follows. Section 2 reviews the previous literature, section 3 examines the data and the methodology for the current research, section 4 presents results from the data analysis, section 5 concludes the paper.

2.0. LITERATURE REVIEW

2.1. CONCEPT OF HUMAN CAPITAL ACCOUNTING

Human Capital in its real sense, as noted by Itami (1987), is an invisible asset. It is a component of intellectual capital. Dean, Mckenna and Krishnan (2012) posits that human capital comprises of the talents, skills and knowledge of a company's work force. Furthermore, Yusuf (2013) reiterates that

human capital is a broad concept encompassing many components but essentially describing the quality of the labour force. As exhaustive as these definitions are, there is no widely accepted definition of human capital.

2.2. Salaries of employees and human capital accounting

Hibbs and Locking (2000) found more positive than negative effects of wages dispersion of firms real value added. Bingley and Eriksen (2001) who focused on the skewness of intra firm wage distribution in Denmark found evidence that characterised a u shaped relationship with firm productivity.

Research in this area has moved from a focus on separate human resource practices and employee performance to a more macro focus on the overall set of human resource practices and firm performance (Arthur, 1992, Huselied, 1995, Huselid & Becker, 1996, Huselid, Jackson & Schuler, 1997). A firms human resource practices must develop employees skills, knowledge and motivation such that employees behave in ways that are instrumental to the implementation of a particular strategy.

Investment in human capital has a positive effect on firm financial performance. Hence, investment in human capital should include all the expenses incurred on enhancing knowledge, education, expertise and skills of employees. This may involve salaries and wages, training and development, payments for conventions and conferences, dues and subscriptions and so on. No further explanation has been found on other expenses of training and development, subscriptions etc through financial statements. This does not mean that companies do not incure expenses on enhancing the skills, expertise, knowledge and education of organisational employees. It also agrees with the findings of (Abdul el al,2014). They found that salary had a positive relationship with the performance of the firms in Pakistan although, it was not statistically significant. The employees competence generates value through knowledge, skills, abilities, talent and know-how. An organisation that invests in its employees skill will out perform competitors that do not invest sufficiently (Baird, 2004). Main et al (1993) and Eriksson (1999) report a positive impact of top executive pay dispersion on firm performance. The latter is measured by returns on assets and the profits/sales ratio respectively.

Heyman (2002) is the first to explicitly control for firm differences in human capital when testing several predictions from the tournament theory for white collar workers and in particular managers. On the basis of a large matched employer- employee data set for the Swedish economy in 1991 and 1995, the author finds a positive effect of wage dispersion on profits. We therefore, expect that there will be a positive relationship between salaries of employees and human capital accounting.

2.3.Welfare and training of staff and human capital accounting

Staff training is essential to the growth and development of an organisation as blood is essential to the human existence so is the training of staff essential to the success of an organisation. Training both physically, socially, intellectually and mentally are very essential in facilitating not only the level of productivity but also the development of personnel in any organisation. According to Abiodun (1999), Training is a systematic development of the knowledge, skills and attitudes required by employees to perform adequately on a given task. Employees training and development

is seen as the most important formation of any competent management. The reason is not far fetched, the ever increasing technological sophistication especially in this age of computer technology has really made it compulsory for organisations to meet changing situations. Training for capacity building is central to sustaining economic growth and development because human capital is the greatest assets of any organisation. Capacity building could also be defined as the internalization of the knowledge, skills and processes that enable the formation, implementation, monitoring and evaluation of set goals in an efficient manner. Therefore, we expect that there will be a positive relationship between welfare and training of staff and human capital accounting.

2.4. Employee size and human capital accounting

Employee size refers to the number of employees been disclosed in the directors report. The few feasible studies that have examined the relationship between number of employee and human capital accounting show mixed results. For instance, the principal argument made by those who are pessimistic as to the impact of teams upon firm performance is that the existence of teams may result in free riding by some team members (Alchian & Demsetz, 1972). While the bulk of theoretical literature focuses on issues concerning the impact of teams on productivity and product quality. Of key interest to some is the recognition that the introduction of various forms of participation, even if accompanied by overall improvements in organisational effectiveness, may also result in major costs to the organisation. In other words, there is a need to consider participation as an investment (Levine & Tyson, 1990). Employees might need more sharing of enterprise rewards through financial participation, such as profit sharing, gain sharing and employee stock ownership to accompany teams lest their commitment to teams becomes undermined (Ben Ner & Jones, 1995 and Kato & Morishima, 2002). This reflects the relationship between employee size and human capital accounting . However, we hypothesize that employee size has a significant impact on human capital accounting.

3.0. Theoretical Framework

3.1.1 Human Capital Theory

The human capital theory on its part is based on the assumption that organisations would take decisions regarding the amount of investments that would be made on human capital based on the anticipated future benefits and/or returns from such investments. Investments in human capital in this regards includes training and development costs. Quoting Flamholtz and Lacey (1981), Bassey and Tapang (2012) opine that investments in human capital includes all costs related to eliciting productive behaviours from employees, including those related to motivating, monitoring, and retraining them. Organisations therefore commit their resources to training employees' specialized skills while at the same time, they make a comparison between their investments in the firm's human capital and the potential future returns/benefits accruing from such investments. Efforts are expected to be made to ensure that any of such acquired skills from training are retained in the investing company and not transferred to other companies.

This theory is relevant to this study because it borders on human capital accounting.

3.1.2. Stakeholder theory

Stakeholder theory suggests that all stakeholders have a right to be provided with information on how organisational activities impacted on them, even if they choose not to use it (Deegan, 2000). The various interest groups deemed to have an interest in controlling certain aspects of an organisation can be efficiently communicated with via the annual report (Guthrie, Perry & Ricceri, 2004). Also, companies will voluntarily disclose information such as human capital to meet the demands of stakeholders who have power to control resources required by the organisation.

Table 1 key studies on Human Capital Accounting

Authors	Aims/ objectives of study	Sample and methodology	Findings and results
Okafor (2009)	To examine the disclosure of human capital in the annual reports of firms Nigeria	Content analysis and listed companies in the Nigerian stock exchange	The result of the study provides that there are number of difficulties in human resource accounting which include quantifying human resource without bias, difficulty in establishing acceptable parameters for valuation establishing basis for depreciation of human assets.
Bontis and Fitzenz (2002)	To investigate human capital management and economic and business outcomes	Content analysis and 25 firms in the financial service	The paper observed that development of human capital has a direct impact on ROI of firms.
Jeroh (2013)	To examine the concept of human capital accounting and its effect on financial statement analysis and decision making.	Questionnaire and descriptive and inferential statistics	The study revealed that there is a significant relationship between human capital accounting and the comparability of financial statements in Nigeria.
Skare (2000)	To investigate human capital as a source of growth myth or reality.	Survey	It was fund that a country with sufficient human capital stock could rely upon human resources in order to achieve higher growth rates.

Summary of key studies exploring human capital accounting (Researcher's own work, 2015).

3.2. METHODOLOGY

The research design adopted in this study was the survey research design which combines both cross sectional and time series research design. The survey research design is preferred because the data that were used for this study was obtained from a cross section of thirty quoted firms on the Nigeria Stock Exchange over a period of six years. The population consists of all companies quoted on the Nigeria stock exchange as at December 31, 2014. The study used thirty firms quoted on the Nigerian stock exchange (NSE). The reasons for adopting this sample size is on the basis that it will enable us to reliably and validly generalize our findings. Secondary data was used for the study. Therefore, secondary data were sourced from the published annual reports of the thirty listed firms in Nigeria for the period 2008-2013). Stratified sampling technique was used in

this study because it takes industrial classifications into consideration because it deals on stratums... Pooled and panel regression analysis was used due to its fundamental properties of best, linear, unbiased and efficiency. Descriptive analysis was also used to test the normality of the distribution. Lastly, to ensure our model is statistical and econometrically valid we conducted diagnostic tests such as autocorrelation, heteroskedasticity, ramsey reset test and variance inflation factor. The analysis in this study was conducted using E views 7.0 econometric software.

3.3. MODEL SPECIFICATION

The model for this study was adapted from the models of Abdul, Muhammad, Hafiz, Ghazanfar, and Arslan (2014). The model in its functional form:

Performance = f (SALARIES) ....eqn (1)

Performance = f (WELFARE) .... eqn (2)

Performance = f (EMPLOYEE)..................eqn (3)

The apriori signs are $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, where the B's represent the coefficients.

The combined equations is shown below:

$Hucap_{it} = \beta_0 + \beta_1 Salaries_{it} + \beta_2 Welfare_{it} B3 employee + U_{it}$

Table 2: Operationalisation of Variables

VARIABLES	CODE	PROXY	SIGN
Wages and salaries paid to employees	Salaries	Annual wages and salaries paid to employees.	+
Welfare and Training	Welfare	Annual Welfare and Training cost	+
Employees	Employees	Total Number of Employees	+

Source: Researcher's Compilation (2016)

4.1. DATA PRESENTATION AND ANALYSIS OF RESULT

The result from the descriptive statistics is shown below:

Table 3: Descriptive Statistics

	SALARIES	WELFARE AND TRAINING	EMPLOYEES
Mean	24258.21	13215.32	8022
Maximum	55370	56308	9823
Minimum	6430	21343	6430

Std. Dev.	16937.09	15156.14	953.813
Skewness	0.186474	1.366947	0.114763
Kurtosis	1.345985	4.201894	1.788296
Jarque-Bera	917.0155	437.0726	7.074817
Probability	0.001	0.001	0.029089

Source: Researcher's computations (2016)

Table 3 above, shows the descriptive statistics of the variables used in the analysis. The result showed that the maximum amount paid for staff welfare and training for the period 2008- 2013 was about N56. 308 while the minimum amount paid to staff for welfare and training for the period was about N21,343 . On the average about N13,215 were paid to staff as welfare and training. Secondly, the minimum amount of welfare paid to staff was 58 trillion, while the maximum amount paid to staff for welfare was 56.308 . Furthermore, the minimum number of employees was 6430, while the maximum number of employees was 9823. The descriptive analysis also revealed that most of the variables used in the study were normally distributed as observed from the Jarque-Bera statistics.

4.2.   REGRESSION ANALYSIS

The results from the regression analysis for the firms are presented below: The model captures determinants of human capital accounting in Nigeria.

Table 4 OLS Regression Model

Pooled Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.243765	0.175682	1.387538	0.1692
SALARIES	3.01E-06	1.19E-06	2.525895	0.0136
WELFARE	6.72E-06	9.79E-07	6.858458	0.0000
EMPLOYEES	0.013542	0.003302	4.100594	0.0001
R-squared	0.734718	Mean dependent var		0.126929
Adjusted R-squared	0.714312	S.D. dependent var		0.182344
S.E. of regression	0.097462	Akaike info criterion		-1.739935
Sum squared resid	0.740917	Schwarz criterion		-1.538775
Log likelihood	80.94723	Hannan-Quinn criter.		-1.659023
F-statistic	36.00445	Durbin-Watson stat		1.538575
Prob(F-statistic)	0.000000			

Source: Researcher's computations (2016)

4.3.   REGRESSION EQUATION

HUMAN CAPITAL ACCOUNTING = 0.243765-3.01 SALARIES +6.72 WELFARE – 0.013 EMPLOYEE.

Note: The t ratios are reported in parentheses below the coefficient estimates.

Table 4 above, shows the pooled ordinary least square (OLS) regression result, it was observed that SALARIES, WELFARE and EMPLOYEES were able to explain about 73% of the variations in human capital accounting (HUMAN CAPITAL ACCOUNTING) while about 27% of the systematic variations in human capital accounting were left unexplained by the model. This means that other factors apart from salaries, welfare and size of employees are responsible for human capital accounting. On the basis of the overall statistical significance of the model as shown by the F statistics it was observed that the model was statistically significant since the calculated F-value of 36.0 is greater than the critical F-value at 5% level of significance.

The result also revealed that salaries, welfare and employees had an inverse relationship with human capital accounting which agrees with apriori expectations.

The Durbin Watson statistics of 1.53 indicates the absence of first order autocorrelation of the stochastic variables inside the error term in the model.

Panel Regression Analysis

Table 5: Test period random effects

Test Summary	Sq. Statistic Chi-Sq. d.f.		Prob.
Period random	47.203158	4	0.0000

Source: Researcher's computation (2016)

Table 5 above, shows the random effect model (REM) is more appropriate than the fixed effect model (FEM). From the Chi-square value of 47.2 with a probability value of 0.00, which is less than the p-value of 0.05. This means fixed effect model is more appropriate than the random effect model and thus we would rely more on the fixed effect model.

Table 6:Fixed Effect Model (FEM)

Table 6 The result from the Fixed Effect Model is presented in the table below: Total panel (unbalanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.283628	0.169096	1.677313	0.0984
SALARIES	3.85E-06	2.03E-06	1.891525	0.0632
WELFARE	5.53E-06	1.03E-06	5.363669	0.0000
EMPLOYEES	0.012597	0.003596	3.503310	0.0009

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.816325	Mean dependent var	0.126929
Adjusted R-squared	0.755100	S.D. dependent var	0.182344
S.E. of regression	0.090237	Akaike info criterion	-1.754619
Sum squared resid	0.512993	Schwarz criterion	-1.122404
Log likelihood	96.57133	Hannan-Quinn criter.	-1.500325
F-statistic	13.33320	Durbin-Watson stat	1.999789
Prob(F-statistic)	0.000000		

Source: Researcher's computation (2016)

Table 6 above, shows the coefficient of determination (R-Square) with a value of 0.816 means that in Nigeria about 82% of the total systematic variations in human capital accounting can be explained by the human capital accounting variables namely salaries, welfare and training, total number of employees taken together. The Adjusted R-square shows that even after adjusting for the degree of freedom the model could still explain about 75% of the total systematic variations in human capital accounting, Only about 25% of the systematic variation of human capital accounting was left unaccounted for by the model which has been captured by the stochastic disturbance term

in the model. This means that other factors apart from human capital accounting were left unexplained by the model.

On the basis of the overall statistical significance of the model as indicated by the F-statistics, it was observed that the overall model was statistically significant since the calculated F- value of 13.33 was greater than the critical F-value of 5.0 at 5% level of significance. This shows that there exist a significant linear relationship with human capital accounting.

On the basis of the individual statistical significance, as shown by the t-ratios in the table above, SALARIES with a t-value of 1.82 (P>0.06) is less than the critical t-value of 2.0 at 5% level of significance under the two tailed test. This means that salaries paid to employees has no significant impact on human capital accounting in Nigeria. WELFARE with a t-value of 5.36 (P >0.000) is greater than the critical t-value of 2.0 at 5%level of significance under the two tailed test. This means that the staff welfare and training has a significant impact on human capital accounting in Nigeria. The result revealed that EMPLOYEES with a t-value of 3.5 (P >0.000) is greater than the critical t-value of 2.0 at 5%level of significance under the two tailed test. This means that the number of employees has a significant impact on human capital accounting in Nigeria. The Durbin Watson statistics of 1.99 indicates the absence of first order autocorrelation of the stochastic variables inside the error term in the model.

Diagnostics Test

In order to ensure reliability and validity of the empirical result, some diagnostic test were conducted. The diagnostic test was conducted for multicollinearity, Heteroskedasticisity and autocorrelation. In order to test for the presence of multicollinearity in the model, the variance inflation factor (VIF) was carried out, the Heteroskedasticity test was conducted using White Heteroskedasticity test while the Breush-Godfrey LM test was conducted to test the presence of autocorrelation in the model. The results are shown below:

Variance Inflation Factor

Table 7 Test of Multicollinearity (Variance Inflation Factor)

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.030864	276.1830	NA

SALARIES	1.42E-12	11.10270	3.609728
WELFARE	9.59E-13	3.447589	1.948518
EMPLOYEES	1.09E-05	6368667.	8.774288

Source: Researcher's computations (2016)

Table 7 above, shows that all the variables in the regression model are relevant to the study since the VIF factors are all below the benchmark of 10. This indicates the absence of multicollinarity in models.

Serial Correlation Test

Table8: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	4.251871	Prob. F(2,76)	0.1178
Obs*R-squared	8.553681	Prob. Chi-Square(2)	0.1039

Source: Researcher's computations (2016)

Table 8 above, shows that the F-statistic and Obs*R-square values of 4.25 and 8.55 with p-values of 0.11 and 0.10 respectively indicates the absence of autocorrelation in model since the F-statistic and Obs*R-square with p-values of 0.11 and 10 are greater than the critical values at 5% level of significance. Thus, we can conclude that there is no presence of autocorrelation in the model.

Heteroskedasticity Test
Table 9: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.150281	Prob. F(6,78)	0.3417
Obs*R-squared	6.909678	Prob. Chi-Square(6)	0.3293
Scaled explained SS	22.13856	Prob. Chi-Square(6)	0.0011

Source: Researcher's computations (2016)

Table 9 above, shows that the F-statistic and Obs*R-square values of 1.15 and 6.9 with p-values of 0.34 and 0.32 respectively indicates the absence of heteroskedasticity in model1 since the F-statistic and Obs*R-square with p-values of 0.34 and 0.32 are greater than the critical values at 5% level of significance. Thus, we can conclude that there is no presence of heteroskedasiticity in the model.

Ramsey RESET Test

Table 10: Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	4.009184	77	0.2000
F-statistic	16.07355	(1, 77)	0. 2000
Likelihood ratio	16.11470	1	0.2000

Source: Researcher's computations (2016)

Table 10 above, shows that the F-statistic of 16.07 with p-values of 0.001 indicates that the model is correctly specified since the F-statistic with p-values of 0.001 is greater than the critical values at $P > 0.05$ level of significance. We can conclude that there is no misspecification of the model and thus, the model was correctly specified.

4.4. DISCUSSION OF FINDINGS

Test of hypothesis one

Salaries was found not to be statistically significant at 5% level of significance and was positively related with human capital accounting in Nigeria. This result rejects hypothesis (Hi) and accepts the null hypothesis (Ho), which states that salaries of employees has no significant impact on human capital accounting in Nigeria. It agrees with the findings of Abdul et al (2014), they found that salary had a positive relationship with performance of the firm in Pakistan although, it was not statistically significant.

Test of hypothesis two

Welfare and training of staff was found to have a significant impact on human capital accounting in Nigeria. The findings conform with apriori expectation. This finding is similar to the work of Lazear (1996) and Shearer (2004) which states that performance related pay directly impact on workers performance.

Test of hypothesis three

Employee size has a significant impact on human capital accounting in Nigeria. The result also expressed that the null hypothesis was rejected and the alternative hypothesis accepted which states that number employee size has a significant impact on human capital accounting in Nigeria. The findings conform to apriori expectation as we expect companies with a large amount of employees to impact positively on human capital accounting. This finding is similar to the position held in Kaplan and Norton (1996). They asserted that talented employees will facilitate the firm in improving their business processes for better strategic and operational effectiveness.

5.1. CONCLUSION AND RECOMMENDATIONS

The broad objective of the study was to investigate determinants of human capital accounting in Nigeria. The study adapted the model of Abdul et al, (2014). The results from the study exhibited a

significant relationship between   salaries, welfare and employee size. Based on these, the study recommends that:

1. Adequate training of staff both locally and internationally should be taken into consideration because it will help to expose them to current developments in their area of specialisation. Pay for performance incentives will also improve the output of workers because it is a good measure of compensation and it will impact positively on employees and hence improve their level of productivity.

2. Employee size would impact positively on the efficiency; sustainability and profitability of the firms performance enhancing effects of team membership are generally greater in terms of productivity because it will impact positively on firm performance.

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