RESPONSE OF FIRM PRODUCTIVITY TO HUMAN CAPITAL EXPENDITURES IN OIL AND GAS FIRMS IN NIGERIA

ENEH, Catherine Amoge
ENUGU STATE UNIVERSITY TEACHING HOSPITAL, PARKLANE, ENUGU
catherineeneh1972@yahoo.com

Prof. OKWO, Ifeoma Mary
DEPARTMENT OF ACCOUNTANCY, ENUGU STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY (ESUT), ENUGU
mary.okwo@esut.edu.ng

ABSTRACT

This study empirically investigated the response of firm productivity on human capital expenditure in oil and gas firms in Nigeria. It spanned for the period of ten years (2009-2018). Specifically, the study examined the effect of employee expenditure on education and training, expenditure on salaries and wages, and expenditure on health on the turnover of Oil and Gas firms in Nigeria. Research design adopted was ex-post facto design while analytical tools employed were descriptive statistics and Ordinary Least Squares (OLS) panel regression analysis technique. From the regression result, it was discovered that employee expenditure on education and training (coeff. = 0.070, t* = 0.381, p=0.7056>0.05) had positive and insignificant effect on the turnover of Oil and Gas firms in Nigeria. Expenditure on salaries and wages (coeff. = −0.383, t* = −1.784, p=0.0836>0.05) and expenditure on health (coeff. = −0.040, t* = −0.146, p=0.8849>0.05) had negative and insignificant effects on the turnover of Oil and Gas firms in Nigeria. A joint estimate as shown by Fisher's statistics (F=17.264, p=0.0000<0.05) revealed that human capital expenditures have significant effect on turnover of Oil and Gas firms in Nigeria. In conclusion therefore, expenditures in human capital are essential factors for growth in turnover of Oil and Gas firms in Nigeria. On these backgrounds, the study recommended among other things that the oil and gas firms should invest more in training their workers than increasing their salaries and wages for increased turnover and overall productivity.

Key Words*: Productivity, Expenditure, Human Capital, Panel Least Squares Regression*

1.0   INTRODUCTION

It is the goal of every organization to generate high revenue and maximize profit. However, investment on workers is an essential factor towards achieving this target. Firms believe that when they invest on their workers, the resultant effect is improved productivity. In other words, the

success of any organization is largely dependent on the commitment of their workers. In an organization, investment in human development ensures that employees (staff) are well trained and reasonably motivated to deliver both physically and mentally on their responsibilities. This commitment encourages increase in firm productivity and sustains competitiveness (James, 2015).

In today's global economy, particularly in manufacturing firms where knowledge, skills and other human capabilities are very crucial to the existence and survival of companies, workforce has evolved into arguably the biggest competitive differentiator for organizations in virtually all industries.. Also, companies place a premium on its human capital development with the conviction that this would translate to improved efficiency in the business and bring about strategic advantage over competitors. The companies appreciate this fact and usually state in their annual report that "our employees are our greatest asset". But still, staff move from one industry to another at slightest opportunities with both the genetic and specific investments made on them, thereby leaving the departed company with the option to reinvest in another staff so as to cover such vacuum created and be able to move forward. The question therefore, is, what is the value of this great asset and their contributions to the productivity of manufacturing firms in Nigeria? The broad objective of this study is to ascertain the response of firm productivity to human capital expenditures in oil and gas manufacturing companies in Nigeria for the periods of ten (10) years (2009-2018). The specific objectives were: to investigate the effect of expenditure on education and Training (EETR); salaries and Wages (ESW) and expenditure on Health (EHT) on the Turnover (TVR) of oil and gas firms in Nigeria.

The following hypotheses guided this study

1) Expenditure on education and training does not significantly influence Turnover (TVR) of oil and gas firms in Nigeria.
2) Expenditure on salaries and wages has no significant effect on Turnover (TVR) of oil and gas firms in Nigeria.
3) Expenditure on health has no significant effect on Turnover (TVR) of oil and gas firms in Nigeria.

2.0 REVIEW OF RELATED LITERATURE

2.1   Conceptual Review

Omodero (2019) defines human capital expenditure as spending that are related to recruiting, training and retraining, compensation, salaries and allowances, retaining and pension incurred on the employee of particular firms in the hope of gaining return on this investment in terms of being more productive, more competitive and above all, more profitable in future. They are expenditures burn out from employee training, motivation, condition of health, e.t.c. for increased productivity and expansion. Ogujiuba (2013) stressed that investing in human capital development is critical as it is targeted at ensuring that the nation's human resource endowment is knowledgeable, skilled, productive and healthy to enable the optimal exploitation and utilization of other resources to engender growth and development. Human capital expenditure consists of salaries and wages; expenditure on education , training, health among others.

Turnover is the net sales generated by a business. Turnover according to Kenton (2019) is an accounting concept that calculates how quickly a business conducts its operations. It can also refer to the proportion of employees that leave a business within a specific period, also sometimes known as 'churn' (Hall, 2018). Most often, turnover explains how quickly a company collects cash from accounts receivable or how fast the company sells its inventory. In the investment industry, turnover is defined as the percentage of a portfolio that is sold in a particular month or year. A quick turnover rate generates more commissions for trades placed by a broker.

2.2 Theoretical Review

This study is anchored on **human capital theory** propounded by Becker in 1962. Central to Human Capital Theory (HCT) is the fact that any investment in the development of the human person in advancement of his skills translates to the increase in the desired workforce needed to advance the goals and objectives of an organization. In relation to this study, the theory advances that investments in people in terms of education, skill, training, etc., would result in increase in the individuals' output.

2.3 Empirical Review

Ukenna, Ijeoma, Anionwu and Olisa (2010) examined the effect of investment in human capital development on organizational performance. Analysis of Variance (ANOVA), t-test, multiple regression analysis, simple regression analysis, and Pearson's correlation coefficient were employed analyze the data. Finding revealed that training and skill are stronger predictors of human capital effectiveness over and above knowledge and education. Perera and Thrikawala (2012) investigated the impact of investment in human capital on financial performances of the companies in Sri Lanka. Findings revealed that there is a significant relationship between investment in human capital and firm financial performances.

Using the ordinary least square analytical technique, Edom, Inah and Adanma (2015) examined the impact of human resource accounting on the profitability of Access Bank of Nigeria Plc, from 2003 to 2012. The finding showed that there is a positive relationship between the indicators of human resource cost and the profit of the organization Also, there was a significant relationship between training cost, development cost and the profit of the bank. However, the number of staff does not have a significant effect on profit of the bank.

By employing panel least squares multiple regression analysis, Ubesie, Eneh and Udeh (2019) examined the effect of human capital expenditures on corporate social responsibility of oil and gas firms in Nigeria for the period of 10 years (2008-2017). The result revealed that human capital expenditures proxy by expenditure on salaries and wages, on education and training and expenditure on health have significant positive effect on Corporate Social Responsibility (CSR) of oil and gas firms in Nigeria.

Okafor, Ofobruku, Obi-Anike and Agbaeze (2019) examined the effects of human capital development on employees' performance in Nigeria public hospital using linear regression statistical technique to analyze the data collected. The finding revealed that the lacks of articulate human capital development strategy geared towards filling identified skills, knowledge and attitude gap were responsible for the meagre employees' performance in Nigeria hospitals.

Chukwu, Ugo and Osisioma (2019) used regression analysis to examine the effect of human capital on the market value of banks in Nigeria for the period 2010 to 2014. The result showed that only one variable - the proportion of highly paid employees - had a significant effect on the market value of firms.

3.0   METHODOLOGY

This study adopted e*x-post facto* research design. data were extracted from annual accounts and financial statements of the four selected oil and gas firms in Nigeria namely MRS oil, TOTAL oil, Conoil, and Oando Oil and Gas firms were studied. This study employed descriptive statistics and panel least squares regression analysis to justify the objectives of this study. Model framework for this study is the panel least square regression model which took its basis from the classical linear regression model. The model is specified thus:

$$LogTVR_t = \beta_O + \beta_1 LogESW_t + \beta_2 LogEETR_t + \beta_2 LogEHT_t + \varepsilon_t \qquad - \qquad (Eq.\ 2)$$

$LogTVR_t$ =   Turnover at time t (Dependent variable),

$LogESW_t$ =   Expenditure on Salaries and Wages at time t,

$LogEETR_t$ =   Expenditure on education and training at time t,

$LogEHT_t$ =   Expenditure on Health at time t,

β_0 =   Constant/intercept of the regression model,

$\beta_1, \beta_2,$ and β_3 =   Coefficient of ESW, EETR, and EHT respectively in the model,

ε_t =   stochastic error (white noise) associated with the model

4.0   DATA PRESENTATION AND ANALYSIS

4.1   Data Presentation

Tables 1: The annual time series data from the selected oil and gas firms(Panel Data)

Years		TVR (₦'000)	ESW (₦'000)	EETR (₦'000)	EHT (₦'000)
MRS oil:	2009	60,900,243	1,511,054	8,156	12,090
	2010	68,671,449	1,401,562	7,764	13,112
	2011	71,490,715	1,225,372	5,309	13,320
	2012	79,727,349	581,257	62,902	14,976
	2013	87,786,323	360,419	63,319	15,213
	2014	92,325,405	618,953	82,150	15,021
	2015	87,099,216	371,609	84,431	15,342
	2016	109,635,054	441,056	90,025	15,735
	2017	107,088,347	517,599	93,217	15,813
	2018	89,552,819	463,706	983,204	205,025

Total oil: 2009	5,543,326	3,829,005	45,690	13,834
2010	7,256,443	4,416,650	48,665	13,567
2011	7,384,465	5,547,322	50,132	15,433
2012	8,198,723	5,983,442	47,002	17,661
2013	9,105,433	6,359,707	44,897	19,807
2014	11,987,933	6,533,412	47,331	22,116
2015	23,106,210	6,805,276	47,653	24,510
2016	21,132,723	6,786,096	49,429	21,663
2017	32,840,384	7,483,750	37,049	21,765
2018	37,205,480	7,863,354	35,988	22,356
Oando oil: 2009	4,207,854	54,778	441,409	1,408
2010	4,352,005	108,075	488,961	1,155
2011	8,122,502	227,148	762,193	1,634
2012	7,358,881	494,860	645,227	1,698
2013	5,883,304	265,416	984,022	1,943
2014	14,217,468	69,994	866,119	2,004
2015	8,452,665	43,720	640,553	2,337
2016	4,858,182	631,710	734,939	2,509
2017	497,422,483	376,141	828,103	2,794
2018	488,518,160	399,707	907,216	2,113
Conoil Oil: 2009	101,853,173	1,856,914	132,156	55,169
2010	102,878,494	1,889,847	149,023	60,435
2011	157,512,072	1,802,721	257,308	52,977
2012	149,993,261	1,562,621	898,750	83,682
2013	121,803,182	1,664,674	921,044	78,541
2014	104,223,841	1,167,803	821,500	47,788
2015	82,919,220	1,994,046	450,198	48,592
2016	85,023,546	1,908,477	100,617	59,023
2017	70,229,461	1,435,469	112,010	44,256
2018	75,838,134	968,502	896,682	80,032

Source: Financial Statement and Accounts of the selected oil and gas firm(2009-2018)**.**

Table 2   Descriptive statistics result and interpretation

Estimated Parameters	LOG(TVR)	LOG(ESW)	LOG(EETR)	LOG(EHT)
Mean	17.41219	13.85243	11.92327	9.558611
Median	18.05606	14.08593	11.57271	9.653953
Maximum	20.02495	15.87772	13.79940	12.23089
Minimum	15.25246	10.68556	8.577159	7.051856
Std. Dev.	1.349985	1.401538	1.504369	1.345656
Skewness	-0.139307	-0.402987	-0.292528	-0.360577
Kurtosis	1.874780	2.548488	2.146300	2.243188
Jarque-Bera	2.239577	1.422427	1.785157	1.821381
Probability	0.326349	0.491048	0.409598	0.402246
Sum	696.4877	554.0973	476.9307	382.3445

Sum Sq. Dev.	71.07594	76.60800	88.26193	70.62080
Observations	40	40	40	40

Source: Author's computation using Eviews 10 package

The result shows that all the variables (dependent and independent) are clustered on the left hand side of the normal curve (negatively skewed). There is no excess kurtosis (k>3.0) and the Jarque-Bera estimate of normality in distribution series of the variables (with p-values > 0.05) indicate that each of the series follow normal and smooth curve. The standard deviations indicate that the series are clustered around the mean. However, the parametric statistics are considered in further analysis.

Table 3   Panel Unit Root Test: Levin, Lin & Chu t* Approach

Variable	Levin, Lin & Chu t*	p-value	Order of integration	Comment
Log(TVR)	-3.604	0.0002	I(0)	Stationary
Log(ESW)	-5.837	0.0000	I(0)	"
Log(EETR)	-2.745	0.0030	I(0)	"
Log(EHT)	-2.813	0.0025	I(0)	"

Source: Author's Extract from E-views 10.0 output (See Appendix A)

The panel unit root test result indicates that the variables are stationary at their level as their respective probability values of Levin, Lin & Chu t* is less than 0.05. This therefore justifies the use of Ordinary Least Square (OLS) panel regression analysis for the hypothesis testing.

Test of Hypothesis :

Decision rule: Reject the null hypothesis if the p-value is less than 0.05 otherwise, do not reject.(

    Level of significance (α) = 0.05

Hypothesis One

Ho: Expenditure on education and training has no significant effect on turnover of oil and gas firms in Nigeria.

Table 4 Result of effect of log(EETR) on log(TVR)

Dependent Variable: LOGTVR
Method: Panel Least Squares
Date: 02/24/20   Time: 18:04
Sample (adjusted): 2010 2018
Periods included: 9
Cross-sections included: 4
Total panel (balanced) observations: 36
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.32770	2.508074	6.908766	0.0000
LOGEETR	0.069513	0.182392	0.381117	0.7056
AR(1)	0.796843	0.100233	7.949944	0.0000

R-squared	0.661196	Mean dependent var	17.48176
Adjusted R-squared	0.640663	S.D. dependent var	1.324175
S.E. of regression	0.793773	Akaike info criterion	2.455618
Sum squared resid	20.79251	Schwarz criterion	2.587578
Log likelihood	-41.20112	Hannan-Quinn criter.	2.501675
F-statistic	32.20075	Durbin-Watson stat	2.339711
Prob(F-statistic)	0.000000		

Inverted AR Roots	.80

Source: Author's Eviews 10 result

The coefficient of employee expenditure on education and training is 0.0695, the t-statistic value is 0.381 with associated probability value of 0.7056>0.05. This indicates that employee expenditure on education and training has positive and insignificant effect on turnover of oil and gas firms in Nigeria. From the result, a unit increase in employee expenditure on education and training will lead to about 0.070 unit increases in turnover of oil and gas firms in Nigeria. The explanatory power of the model as measured by coefficient of determination (R-squared) is 66.1% which is above average of 50.0%. The implication is that the model is a good one as about 66.1% of the total variations in turnover of oil and gas firms can be attributed to employee expenditure on education and training. The unexplained 33.9% are attributable to other relevant variables not included in the model. However, the Durbin-Watson statistic value of 2.339711 following the rule of thumb indicates the model is not suffering from autocorrelation problem.

Hypothesis Two

Ho: Expenditure on salaries and wages has no significant effect on turnover of oil and gas firms in Nigeria.

Table 5: Result of effect of log(ESW) on log(TVR)

Dependent Variable: LOGTVR
Method: Panel Least Squares
Date: 02/24/20   Time: 18:05
Sample (adjusted): 2010 2018
Periods included: 9
Cross-sections included: 4
Total panel (balanced) observations: 36
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	23.62313	3.070758	7.692930	0.0000
LOGESW	-0.382911	0.214614	-1.784182	0.0836
AR(1)	0.808340	0.086327	9.363722	0.0000
R-squared	0.689835	Mean dependent var		17.48176
Adjusted R-squared	0.671037	S.D. dependent var		1.324175
S.E. of regression	0.759484	Akaike info criterion		2.367301
Sum squared resid	19.03494	Schwarz criterion		2.499261
Log likelihood	-39.61142	Hannan-Quinn criter.		2.413359
F-statistic	36.69748	Durbin-Watson stat		2.018991
Prob(F-statistic)	0.000000			
Inverted AR Roots	.81			

Source: Author's Eviews 10 result

From the panel ordinary least squares regression as shown above, the coefficient of expenditure on salaries and wages (Log(ESW)) is -0.383, with t-statistic value of -1.784 and associated probability value of 0.0836>0.05. This implies that expenditure on salaries and wages have negative and insignificant effect on turnover of oil and gas firms. The null hypothesis is therefore not rejected. This means that expenditure on salaries and wages has no significant effect on turnover of oil and gas firms in Nigeria. Also, the result shows that a unit increase in the workers' salaries will lead to about 0.383 unit decreases in turnover of the oil and gas firms in Nigeria.

The explanatory power of the model (R-squared) is 69.0% which indicates that the model is a good one, hence, about 69% of the total variations in turnover of oil and gas firms in Nigeria can be

explained by expenditure on salaries and wages of the workers. However, the Durbin-Watson statistic value of 2.018991 according to Guajarati and Porter (2009) or the rule of thumb indicates that the model is free from autocorrelation problem.

Hypothesis Three

Ho: Expenditure on health has no significant effect on turnover of oil and gas firms in Nigeria.

Table 6: Result of effect of log(EHT) on log(TVR)

Dependent Variable: LOGTVR
Method: Panel Least Squares
Date: 02/24/20   Time: 18:07
Sample (adjusted): 2010 2018
Periods included: 9
Cross-sections included: 4
Total panel (balanced) observations: 36
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.68257	3.082319	6.061206	0.0000
LOGEHT	-0.040135	0.275160	-0.145859	0.8849
AR(1)	0.809485	0.104357	7.756851	0.0000

R-squared	0.659973	Mean dependent var	17.48176	
Adjusted R-squared	0.639365	S.D. dependent var	1.324175	
S.E. of regression	0.795205	Akaike info criterion	2.459221	
Sum squared resid	20.86757	Schwarz criterion	2.591181	
Log likelihood	-41.26598	Hannan-Quinn criter.	2.505279	
F-statistic	32.02557	Durbin-Watson stat	2.361051	
Prob(F-statistic)	0.000000			

Inverted AR Roots	.81	

Source: Author's Eviews 10 result

The coefficient of employee expenditure on health (Log(EHT)) is -0.040, with t-statistic value of -0.146 and associated probability value of 0.8849>0.05. This shows that employee expenditure on health has a non-significant negative effect on turnover of oil and gas firms in Nigeria. The null hypothesis is therefore not rejected which means that employee expenditure on health has no significant effect on turnover of oil and gas firms in Nigeria. As shown in the result, a unit increase

in employee expenditure on health will lead to about 0.040 unit decreases in turnover of the oil and gas firms in Nigeria.

The R-squared estimate is 66.0%. This implies that about 66.0% of the total variations in turnover of oil and gas firms can be explained by health expenditure. However, the model is a good one. However, the Durbin-Watson statistic value of 2.361051 following the rule of thumb indicates that the model is free from autocorrelation problem.

Table 7: Multiple Panel Regression Result

Dependent Variable: LOGTVR
Method: Panel Least Squares
Date: 02/24/20   Time: 18:02
Sample (adjusted): 2010 2018
Periods included: 9
Cross-sections included: 4
Total panel (balanced) observations: 36
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24.12180	4.734624	5.094764	0.0000
LOGESW	-0.382366	0.231137	-1.654281	0.1082
LOGEETR	0.008000	0.216061	0.037028	0.9707
LOGEHT	-0.056349	0.325758	-0.172978	0.8638
AR(1)	0.815656	0.095064	8.580072	0.0000

R-squared	0.690175	Mean dependent var	17.48176
Adjusted R-squared	0.650198	S.D. dependent var	1.324175
S.E. of regression	0.783171	Akaike info criterion	2.477314
Sum squared resid	19.01406	Schwarz criterion	2.697248
Log likelihood	-39.59166	Hannan-Quinn criter.	2.554077
F-statistic	17.26414	Durbin-Watson stat	2.046831
Prob(F-statistic)	0.000000		

Inverted AR Roots	.82

Source: Author's Eviews 10 result

The multiple regression result authenticates that employee expenditure on salaries and wages (Log(ESW)) and expenditure on workers' health (Log(EHT)) have negative and insignificant effect on turnover of oil and gas firms in Nigeria, while employee expenditure on education and

training (Log(EETR)) has positive and insignificant effect on turnover of oil and gas firms in Nigeria.

The joint significant estimate is F = 17.264 with probability value of 0.0000<0.05. This indicates that human capital expenditure proxied by expenditure on salary and wages, expenditure on education and training, and expenditure on health have joint significant effect on the productivity (turnover) of oil and gas firms in Nigeria. The model is a good one as it explains about 69.0% of the total variations in turnover of the firms. With the Durbin-Watson statistic value of 2.046831 indicates that the model is free from first order autocorrelation problem.

4.4 Discussion of Findings

With a coefficient value of 0.070, t-statistic value of 0.381 and associated probability value of 0.7056, this paper established that employee expenditure on education and training has a non-significant positive effect on turnover of oil and gas firms in Nigeria. The meaning is that advancement in education of the employees will help to promote turnover of oil and gas firms in Nigeria. This finding aligns with the findings of Ubesie et al (2019), Ukenna et al (2010), among others.

The study also uncovered that employee expenditure on salaries and wages (with coeff. = −0.383, t* = −1.784, p=0.0836>0.05) have insignificant negative effect on turnover of oil and gas firms in Nigeria. This finding is in partial support of the work of Yusuf (2011) in Nigerian banks, among others. On the contrary, the outcome of this study disobeys the work of Perera and Thrikawala (2012) that staff salary has positive effect on organizational profitability in Nigeria.

Moreover, this study established that employee expenditure on health with a coefficient value of −0.040, t-statistic value of −0.146 and associated probability value of 0.8849>0.05 is not favourable to turnover of oil and gas firms in Nigeria. The implication of this finding is that when a firm spends much on his workers, the level of turnover (in terms of revenue) of the firm will confidently drop. The insignificant effect of employee expenditure on health on the turnover of oil and gas firms in Nigeria does not support the work of Perera and Thrikawala (2012), Olowolaju and Oluwasesin (2016), among others.

The collective significant effect of human capital expenditures on turnover of oil and gas firms in Nigeria agrees with the work of Perera and Thrikawala (2012) in Sri Lanka. The finding equally supports the work of Ubesie, et al (2019), amongst others. On the contrary, the outcome nods in disagreement to the work of Chukwu *et al* (2019).

5.0   CONCLUSION AND RECOMMENDATIONS

5.2   Conclusion

Having explored the response of firm productivity to human capital expenditures in oil and gas firms in Nigeria using panel least squares regression analysis techniques for the period of 2009-2018, the study established that firm productivity respond significantly to human capital expenditure in oil and gas firms in Nigeria. The implication is that expenditure in human capital contributes substantially to turnover of oil and gas firms in Nigeria.

5.3   Recommendations

Based on the findings of this study, the following recommendations were made:

1) The oil and gas firms should invest more on education and training of their employees for wider knowledge and exposure on the strategies for increased productivity of the firm.
2) They should review their salary structure (downward) to match with the firms' turnover since increased salary and wages are not favourable to the firm's productivity.
3) The oil and gas firms should curtail and monitor expenditure on health of their workers as it decreases turnover of the firms.

REFERENCES

Chukwu, G. J., Ugo, C. C. & Osisioma, B. C. (2019). Market valuation of human capital in Nigerian Banks. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 9(1), 21–29.

Edom, G. O., Inah, E. U. & Adanma, E. S. (2015). The impact of human resource accounting on the profitability of a firm: Empirical from Acess Bank of Nigeria PLC. *European Journal of Accounting, Auditing and Finance Research*, 3(7), 76-94.

Hall, J. (2018). How to calculate turnover for your business. Retrieved online from: https://www.simplybusiness.co.uk/knowledge/articles/2018/05/what-is-business-turnover/ on January 24, 2020.

James, U. M. (2015). Local content policy, human capital development and sustainable business performance in the Nigerian Oil and Gas Industry. *Journal of Management and Sustainability*, 5(1), 75-83.

Kenton, W. (2019). Turnover definition. https://www.investopedia.com/terms/t/turnover.asp Retrieved online on February 22, 2020.

Kum, F., Cowden, R. & Karodia, A. M. (2014). The impact of training and development on employee performance: A case study of ESCON consulting. *Singaporean Journal of Business Economics, and Management Studies*, 3(3), 72-105.

Makgata, R. M. & Ngwakwe, C. C. (2017). Human capital expenditures and company sales turnover. *Corporate Ownership and Control, 14(3)*, 320-328.

Ogujiuba. K. (2013). The impact of human capital formation on economic growth in Nigeria. *Journal of Economics*, 4(2), 121-132.

Okafor, C. N., Ofobruku, S. A., Obi-Anike, H. O. & Agbaeze, E. K. (2019). An investigation of the effect of human capital development on employees' performance in Nigeria public hospitals: A study of the federal medical hospital Keffi. *Academy of Strategic Management Journal*, 18(4), 1-13.

Omodero, C. O. (2019). Government general spending and human development: A case study of Nigeria. *Academic Journal of Interdisciplinary Studies*, 8(1), 51-59.

Perera, A. & Thrikawala, S. (2012). Impact of human capital investment on firm financial performances: An empirical study of companies in Sri Lanka. *IPEDR,* 54(3).

Seidel, M. (2019). What are the factors that affect productivity? Retrieved from https://bizfluent.com/info-10000291-factors-affect-productivity.html on February 20, 2020..

Singh, R. & Molhanty, M. (2012). Impact of training Practice on employee's productivity: A comparative study. *Inter-science Management Review*, 2(2), 87- 92.

Ubesie, M. C., Eneh, C. A. & Udeh, N. (2019). Effect of human capital expenditures on corporate social responsibility of oil and gas firms in Nigeria. *American Journal of Theoretical and Applied Business,* 5(4), 102-112.

Ukenna, S., Ijeoma, N., Anionwu, C. & Olisa, M. C. (2010). Effect of investment in human capital development on organizational performance: Empirical examination of the perception of small business owners in Nigeria. *European Journal of Economics, Finance and Administrative Sciences,* 94-107.

Voegtlin, C. & Greenwood, M. (2016). Corporate social responsibility and human resource management: A systematic review and conceptual analysis. *Human Resource Management Review,* 26, 181–97.

Imoughele, L. E. & Ismaila, M. (2013). Determinants of public health care expenditure in Nigeria: An error correction mechanism approach. *International Journal of Business and Social Science,* 4(13), 222-233.

APPENDICES

APPENDIX A: UNIT ROOT TEST

Panel unit root test: Summary
Series: LOGTVR
Date: 02/24/20   Time: 17:58
Sample: 2009 2018
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.60442	0.0002	4	32
Breitung t-stat	0.52566	0.7004	4	28
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.33755	0.3679	4	32
ADF - Fisher Chi-square	11.3807	0.1810	4	32
PP - Fisher Chi-square	4.31823	0.8273	4	36

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: LOGESW
Date: 02/24/20   Time: 17:59
Sample: 2009 2018
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.83711	0.0000	4	32
Breitung t-stat	-0.21669	0.4142	4	28
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.38084	0.3517	4	32
ADF - Fisher Chi-square	12.3049	0.1381	4	32
PP - Fisher Chi-square	5.62330	0.6893	4	36

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: LOGEETR
Date: 02/24/20   Time: 18:00
Sample: 2009 2018
Exogenous variables: Individual effects, individual linear trends
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.74491	0.0030	4	32
Breitung t-stat	1.00772	0.8432	4	28
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.09439	0.4624	4	32
ADF - Fisher Chi-square	8.65308	0.3724	4	32
PP - Fisher Chi-square	4.29550	0.8295	4	36

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary
Series: LOGEHT
Date: 02/24/20   Time: 18:01
Sample: 2009 2018
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.81265	0.0025	4	32
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.00607	0.4976	4	32
ADF - Fisher Chi-square	9.58795	0.2951	4	32
PP - Fisher Chi-square	6.30419	0.6132	4	36

** Probabilities for Fisher tests are computed using an asymptotic Chi
    -square distribution. All other tests assume asymptotic normality.