Impact of Human Capital Development on Economic Growth in Nigeria

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ABSTRACT: *The study examines the impact of human capital development on economic growth in Nigeria. The study sought to find out how human capital development (education and health) contributes to economic growth (GDP, unemployment and employment rate) in Nigeria. Investment in Education and health are always not considered in Nigeria which limits the economic growth in Nigeria thereby not contributing to gross domestic product in Nigeria. Poor consideration of human capital development result to high level unemployment, low GDP and low employment rate in Nigeria. The main objective is to examine the impact of human capital development on economic growth in Nigeria. Time series data were collected from secondary source from 1999-2015. The Ordinary Least Square was adopted and finding reveals that human capital development and economic growth in Nigeria is insignificant. The study also found that human capital development contributes to unemployment rate in Nigeria but does not contributes to GDP and employment rate in Nigeria. It is therefore recommended that Nigeria government should re-strategies its human capital development policies and develop a programme to solve human development needs in terms of education and health since there is insignificant relationship between human capital development and economic growth.*

Keywords: *human capital development, Education, health, economic growth and GDP*

I. Introduction

Human capital development is the key to the economic growth process of Nigerian and it is the process of determining and assuring that Nigerian will have adequate number of qualified persons available at the proper times to contribute economic growth in Nigeria. Human capital consists of inherited and acquired abilities of labour with education being the primary source of acquiring these abilities. Human capital investment includes investment by society in education, investment by employment in training, and investment by individuals of time and money in their own development.

As Nigeria became obsolete in human capital, they are confronted with the problem of inability to deliver quality service, inability to attract and retrain the workers and difficulty in the development and training of highly talented personnel which in turn reduced the economic growth of Nigeria. Investment in Education and health are always not considered in Nigeria which limits the economic growth in Nigeria thereby not contributing to gross domestic product in Nigeria. Poor consideration of human capital development result to high level of unemployment, low GDP and low employment rate in Nigeria.

Previous study such as Oladeji (2015) investigates the relationship between human capital (through education and effective health care services) and economic growth in Nigeria and Jaiyeoba (2015) empirical investigation on the relationship between investment in education, health and economic growth in Nigeria using Johansen cointegration and ordinary least square technique. This study fills the research gap in knowledge by investigating the impact of human capital development on economic growth in Nigeria using Ordinary Least method of regression and e-view statistical software package.

The scope of this study cover a 17-year period from 1999 – 2015 and this period is chosen because its mark the beginning of the democratic dispensation in Nigeria in which advancement in education and health were the major concerned of the government. Government expenditure on education and health was a concerned of the citizen since they understand what developing human capital in country like Nigeria is all about. At this period also, the GDP of Nigeria was also increasing instead of decreasing especially in 2013.

The main objective of this study is to investigate the impact of human capital development on economic growth in Nigeria. The specify objective of this study are: to examine the impact of human capital development on the Gross domestic product in Nigeria, to determine the impact of human capital development on unemployment rate in Nigeria and to evaluate the impact of human capital development on the employment rate in Nigeria.

Government of Nigeria will find this study relevant and important because it will assist them in their deliberations and discussion on the best way to handle or deal with human capital development in relation to economic growth in Nigeria and in proffering possible policy recommendations that will help both the government and administrators of policies. It will also help researchers to know more about Human capital

development programme as a tool for improving economic growth. Above all, it is hoped that this study would contribute to knowledge and be useful as reference materials for scholars and will equally form the basis for further research study.

The hypotheses are stated below: they are

H_1: There is no significant relationship between human capital development and gross domestic product   in Nigeria

H_2: There is no significant relationship between human capital development and unemployment in Nigeria

H_3: There is no significant relationship between human capital development and employment in Nigeria

Concept of Human Capital Development

According to Oyinlola and Adeyemi (2014) human capital development refers to the acquired and useful abilities of all the inhabitants or members of the society. Audu, Igwe and Onoh (2013) assert that human capital development consists of conscious efforts to amplify human knowledge, improve skills, productivity and inspire resourcefulness of individuals. Hines (2000) defines it as the combined knowledge, skills, innovativeness and ability of the company's individual employees to meet the task at hand. It obviously includes intangibilities such as the company values, culture and philosophy. Paul, Wada, Audu and Omisore (2013) believes that human capital development is the process that relates to training, education and other professional initiatives/interventions in order to increase the levels of knowledge, skills, abilities, values, and social assets of an employee which will lead to the employee's satisfaction and better performance, and eventually improved economic growth.

According to Erhurua (2007) human capital development is a presuppose investments, activities and processes that produce vocational and technical education knowledge, skills, health or values that are embodied in employees. Marimuthu (2009) human capital development is the process that relate to training, education and other professional initiatives in order to increase the levels of knowledge, skills, abilities, values, and social assets of an employee which will lead to the employees job satisfaction and performance. Human capital development is a combination of the following four factors: genetic inheritance; education; experience; and attitudes about life and business (Bontis, 2001).

Concept of economic growth

Economic growth is designed by both affluent and non-affluent economies. Economic growth is the desire for higher levels or real per capital income, real output which must grow faster than the production of the economy in question (Alex, 2015). –, also defined economic growth as the process whereby the real per capita income of a Country increase over a long period of time. Economic growth is measured by the increase in the amount of goods and services produced in a Country. Iyoha (1996), economic growth is used to described the process of growth in advanced industrialize countries while economic development is used to describe the dynamics of growth in low-income, non-industrialized countries.

Empirical Study

Oladeji (2015) investigate the relationship between human capital (through education and effective health care services) and economic growth in Nigeria, using annual time series data from 1980 to 2012. The paper employs OLS methodology. The result shows that considering the magnitude, 1% increase in GDP is brought about by 22% increase in human capital. This postulates that an increase in allocation to education and health will lead to increase in GDP. The estimated value of R2 (goodness of fit) of 0.80 or 80% and it show that the independent variables explain about 80% of the variation in the dependent variable. The findings have a strong implication on educational and health policy in Nigeria.

Adelakun (2011) evaluates human capital development and economic growth in Nigeria by adopting conceptual analytical framework that employs the theoretical and ordinary least square (OLS) to analyze the relationship using the GDP as proxy for economic growth; total government expenditure on education and health, and the enrolment pattern of tertiary, secondary and primary schools as proxy for human capital. The analysis confirms that there is strong positive relationship between human capital development and economic growth.

Jaiyeoba (2015) empirical investigation on the relationship between investment in education, health and economic growth in Nigeria, using time series data from 1982 to 2011. They employs trend analysis, the Johansen cointegration and ordinary least square technique. Empirical findings however indicate that there is a long -run relationship between government expenditure on education, health and economic growth. The variables: health and education expenditure, secondary and tertiary enrolment rate and gross fixed capital formation appear with the expected positive signs and are statistically significant (except government expenditure on education and primary enrolment rate). The findings of this work have strong implications on education and health policies and considering that they are of great debate in the country.

God'stime and Uchechi (2014) employ the augmented Solow to study human-capital-growth model using to investigate the impact of human capital development on national output, a proxy for economic growth. Quarterly time-series data from 1999-2012 were used and the result indicates that human capital development, in line with theory, exhibits significant positive impact on output level. This implies that human capital development is indispensable in the achievement of sustainable economic growth in Nigeria, as there is an increase in economic performance for every increase in human capital development. The results further reveal a relatively inelastic relationship between human capital development and output level.

Oboh, Rahmah and Abu (2010) investigate the impact of human capital development on economic growth in Nigeria during the period 1970 to 2008. Johansen cointegration technique and vector error correction analysis were used to ascertain this relationship. The basic macroeconomic variables of concern derived from the literature review are: Real gross domestic product (RGDP), real capital expenditure (RCE) on education, real recurrent expenditure (RRE) on education, real capital stock (RCS), total school (SCHE) enrolments and labour force (LF) are used to proxy human capital development. The result indicated that human capital development has insignificant impact on Nigeria's economic growth.

Resource Based theory

This theory recognizes human capital development as the most valuable, non-substitutable and imperfectly imitable resource that can successfully utilize to achieve economic growth. Resource-based theory is linked to human capital theory in these theory emphasize that investment in people adds to their value to the economic (Baron & Armstrong, 2007).

Human Capital Theory

Schultz (1961) as put forth by Dae-bong (2009) recognizes that human capital is one of the most important factors of national economic growth in the modern economy. The theory argues that an employees formal education determines his or her earning power. Human capital theory holds that it is the key competences, skills, knowledge and abilities of the workforce that contributes to economic growth. According to Human Capital Theory, education is an investment because it is believed that it could potentially bestow private and social benefits. Human capital theorists believe that education and earning power are correlated, which means, theoretically, that the more education one has, the more one can earn, and that the skills, knowledge and abilities that education provides can be transferred into the work in terms of productivity and profitability (Dae-bong, 2009).

The human-resource-based theory of the firm

Within the resource-based theory of the firm, human capital is one of the major resources. Charlotte and Jan (1999) has formulated a conceptual model on how available human resources are utilized: which factors influence this utilization, and what are the outcomes? His human- resource-based theory of the firm combines the resource-based theory with a stakeholder view of the firm. On the one hand it recognizes the importance of the various stake-holders and the relations between them. These stakeholders form the dominant coalition. The values and attitudes of the members of this coalition are some of the factors that influence the management of the human resources. On the other hand it acknowledges that the available resources and the mechanisms of path dependence and routines limit the room to maneuver for this coalition (Charlotte & Jan, 1999).

Cognitive learning Theory

According to Tolman, individuals learn specific events that result in the satisfaction of particular goals. Thus, in this system, all behavior is goal-oriented (Bell-Gredler, 1986). Learning involves one's expectations in a given situation. If the expectancies are fulfilled, then they are confirmed and remain part of one's schematic framework. Naturally, one's perceptions of a situation greatly influence one's expectations within that scenario. In one of Tolman's intriguing experiments, three sets of rats ran a maze daily for several weeks. The first group received food at the end of the maze while the second did not. The last group received no food for the first ten days, but was then given the reward on the eleventh day.

Neoclassical theory

The neoclassical theory of growth developed by Solow and Swan (2000) centred macroeconomists' attention on tangible (physical) capital development as the driver of employees performance. However, the theory showed that, because of decreasing marginal returns in substituting physical capital for labour, the accumulation of capital would not indefinitely support a steady rate of growth in economic.

The Modernization Theory
This theory focuses on how education transforms an individual's value, belief and behaviour. Exposure to modernization institutions such as schools, factories, and mass media inculcate modern values and attitudes. The attitude include openness to new idea, independences from traditional authorities, willingness to plan and calculate further exigencies and growing sense of personal and social efficacy (Odhong & Were, 2013). To them, these normative and attitudinal changes continue throughout the life cycle, permanently altering the individual's relationship with the social structure. The greater the number of people exposed to modernization institutions, the greater the level of individual modernity attained by the society. Once a critical segment of a population change in this way, the pace of society's modernization and economic growth quickens, Thus, educational expansion through its effects on individual values and benefits sets in motion the necessary building blocks for a more productive workforce and a more sustained economic growth (Odhong & Were, 2013).

Endogenous Growth Theory
According to Temple (2009) endogenous growth theory has stimulated economists' interest in the empirical evidence available from cross country comparisons, bearing on the main level relationship between human capital development and economic growth. He describes physical capital accumulation as sufficient to determine the dynamic evolution of output. To specify the growth path when human capital is included, it is necessary to consider an additional sector where the growth of human capital has taken place. Given the physical capital still has diminishing returns, the required assumption for the model to exhibit a positive growth rate of output per worker in the steady state is that the technology for generating human capital has constant returns; meaning that the growth of human capital is assumed to be the same for a given effort, whatever the level of human capital attained. With the assumption, the rate of output growth (per worker) is positive and increasing in the productivity of education or on-the-job training in the creation of human capital.

II.   Methodology
The research used historical research design and ordinary Least square regression to analysed data and it was gathered from the Central Bank of Nigeria statistical Bulletin and bureau of Statistic. The sample period is for 17-years from 1999 to 2015. The population of is 140 million people living Nigeria according to National population, 2006. Gross domestic product (GDP), unemployment and employment rate were used as proxies for economic growth while human capital development is the independent variable proxy as investment in education and health. Using the e-view software and data obtained from secondary source were tabulated and analyzed using multiple regression models. The multiple regression models are stated below:

GDP   = $\alpha + \beta_1 ED + \beta_2 HL + \mu$ ----------------------------------1
UNE   = $\alpha + \beta_1 ED + \beta_2 HL + \mu$ ----------------------------------2
EM   = $\alpha + \beta_1 ED + \beta_2 HL + \mu$ ----------------------------------3

Where:
GDP   = Gross Domestic Product
α = Intercept or constant
β_1 = Independent variable or coefficient
UNE   =Unemployment rate
EM   =Employment rate
ED   = Education
HL   =Health
μ =Error term

III.   Data Analysis
Hypothesis 1: Human capital development and Gross Domestic Product
GDP   = $\alpha + \beta_1 ED + \beta_2 HL$

Dependent Variable: GDP				
Method: Least Squares				
Date: 03/08/16 Time: 13:37				
Sample: 1999 2015				
Included observations: 17				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.684075	3.200135	2.713659	0.0168
ED	-0.017683	0.041614	-0.424924	0.6774
HL	0.025285	0.073316	0.344883	0.7353
R-squared	0.014178	Mean dependent var		7.779271
Adjusted R-squared	-0.126654	S.D. dependent var		7.082610
S.E. of regression	7.517763	Akaike info criterion		7.031199
Sum squared resid	791.2347	Schwarz criterion		7.178237

Log likelihood	-56.76520	Hannan-Quinn criter.	7.045815
F-statistic	0.100672	Durbin-Watson stat	1.992323
Prob(F-statistic)	0.904878		

Source: Data output from e-view statistical package, 2016

1% level of significance, 5% level of significance and 10% level of significance

GDP $=$ $\alpha + \beta_1 ED + \beta_2 HL$

GDP $= 8.68 - 0.01VS + 0.02HL$

SE $=$ 3.20 0.04 0.07

t* $=$ 2.71 (0.42) 0.34

p* $=$ 0.01 0.67 0.73

R^2 $=$ 0.01

Adj. R^2 $=$ (0.12)

F-statistic 0.10 (prob) 0.90

DW = 1.99

From the regression result, human capital development coefficient for education (Ed) is negative and insignificant in achieving economic growth in Nigeria in terms of gross domestic product (GDP). The p-value of 0.67 is greater than the t-statistic value of (0.42) and the standard error value of 0.04 is greater than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of education and gross domestic product in Nigeria.

However, human capital development coefficient for health (HL) is positive and significant in achieving economic growth in Nigeria in terms of gross domestic product (GDP). The p-value of 0.73 is greater than the t-statistic value of 0.34 and the standard error value of 0.07 is less than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of health and gross domestic product in Nigeria.

The coefficient of determination (r^2) of 0.01 indicates that 1% of variation in economic growth in terms of gross domestic product (GDP) can be explained by human capital development (education and health) in Nigeria. The remaining 99% can be explained by other related factors not noted in the regression model. The f-statistic value of 0.10 is insignificant at p-value of 0.90. Therefore, we accept the null hypothesis that there is insignificant relationship between human capital development and gross domestic product in Nigeria.

Hypothesis 2: Human capital development and Unemployment rate

Dependent Variable: UNR				
Method: Least Squares				
Date: 03/08/16 Time: 13:47				
Sample (adjusted): 1999 2014				
Included observations: 16 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.47766	2.752141	4.170448	0.0011
ED	0.042010	0.035262	1.191355	0.2548
HL	-0.007784	0.062122	-0.125294	0.9022
R-squared	0.367991	Mean dependent var		17.62500
Adjusted R-squared	0.270759	S.D. dependent var		7.434021
S.E. of regression	6.348326	Akaike info criterion		6.701620
Sum squared resid	523.9161	Schwarz criterion		6.846480
Log likelihood	-50.61296	Hannan-Quinn criter.		6.709038
F-statistic	3.784671	Durbin-Watson stat		1.316867
Prob(F-statistic)	0.050664			

Source: Data output from e-view statistical package, 2016

1% level of significance, 5% level of significance and 10% level of significance

UNR $=$ $\alpha + \beta_1 ED + \beta_2 HL$

UNR $= 11.47 + 0.04ED - 0.00HL$

SE $=$ 2.75 0.03 0.06

t* $=$ 4.17 1.19 (0.12)

p* $=$ 0.00 0.25 0.90

R^2 $=$ 0.36

Adj. R^2 $=$ 0.27

F-statistic 3.78 (prob) 0.05

DW = 1.31

From the regression result, human capital development coefficient for education (Ed) is positive and significant in achieving economic growth in Nigeria in terms of unemployment rate (UNR). The p-value of 0.25 is less than the t-statistic value of 1.19 and the standard error value of 0.03 is less than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of education and unemployment rate in Nigeria.

However, human capital development coefficient for health (HL) is negative and insignificant in achieving economic growth in Nigeria in terms of unemployment rate (UNR). The p-value of 0.90 is greater than the t-statistic value of (0.12) and the standard error value of 0.06 is less than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of health and unemployment rate in Nigeria.

The coefficient of determination (r^2) of 0.36 indicates that 36% of variation in economic growth in terms of unemployment rate (UNR) can be explained by human capital development (education and health) in Nigeria. The remaining 64% can be explained by other related factors not noted in the regression model. The f-statistic value of 3.78 is insignificant at p-value of 0.05. Therefore, we accept the alternative hypothesis that there is a significant relationship between human capital development and unemployment rate in Nigeria.

Hypothesis 3: Human capital development and Employment rate

Dependent Variable: EM				
Method: Least Squares				
Date: 03/08/16 Time: 13:50				
Sample: 1999 2015				
Included observations: 17				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.213935	8.251126	0.874297	0.3967
ED	0.018594	0.107296	0.173298	0.8649
HL	0.066220	0.189035	0.350303	0.7313
R-squared	0.128591	Mean dependent var		16.09000
Adjusted R-squared	0.004104	S.D. dependent var		19.42346
S.E. of regression	19.38356	Akaike info criterion		8.925513
Sum squared resid	5260.114	Schwarz criterion		9.072550
Log likelihood	-72.86686	Hannan-Quinn criter.		8.940129
F-statistic	1.032965	Durbin-Watson stat		1.327505
Prob(F-statistic)	0.381553			

Source: Data output from e-view statistical package, 2016
1% level of significance, 5% level of significance and 10% level of significance

EM   = $\alpha + \beta_1 ED + \beta_2 HL$
EM   = 7.21+0.01ED+0.06HL
SE   = 8.25 0.10   0.18
t*   = 0.87 0.17   0.35
p*   = 0.39   0.86   0.73
R^2 =   0.12
Adj. R^2 =   0.00
F-statistic 1.03 (prob) 0.38
DW = 1.32

From the regression result, human capital development coefficient for education (Ed) is positive and significant in achieving economic growth in Nigeria in terms of employment rate (EM). The p-value of 0.86 is greater than the t-statistic value of 0.17 and the standard error value of 0.10 is greater than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of education and employment rate in Nigeria.

However, human capital development coefficient for health (HL) is positive and significant in achieving economic growth in Nigeria in terms of employment rate (EM). The p-value of 0.73 is greater than the t-statistic value of 0.35 and the standard error value of 0.18 is less than the t-statistic value. This implies that there is insignificant relationship between human capital development in terms of health and employment rate in Nigeria.

The coefficient of determination (r^2) of 0.12 indicates that 12% of variation in economic growth in terms of employment rate (UNR) can be explained by human capital development (education and health) in Nigeria. The remaining 88% can be explained by other related factors not noted in the regression model. The f-statistic value of 1.03 is insignificant at p-value of 0.38. Therefore, we accept the null hypothesis that there is insignificant relationship between human capital development and employment rate in Nigeria.

IV.   Discussion of Findings

From the above analysis, the impact of human capital development on economic growth in Nigeria is insignificant. This shows that human capital development (education and health) is insignificant in achieving economic growth in terms of gross domestic product and employment rate in Nigeria. This implies that human capital development does not contribute to GDP and increasing employment rate in Nigeria. The study also found that human capital development contributes to unemployment rate in Nigeria. That is, the investment in human capital in terms of education provides the basic skills need in this modern era of technology and reduced unemployment rate in Nigeria. The finding is in line with the finding of Oboh, Rahmah and Abu (2010) who found that there is insignificant relationship between human capital development and economic growth.   The study is also consistent with endogenous growth theory which describes physical capital accumulation as sufficient to determine the dynamic evolution of economic growth.

V.   Conclusions And Recommendations

 This study concludes that impact of human capital development on economic growth in Nigeria is statistically insignificant. This implies that human capital development in terms of education and health does not contribute to economic growth in terms of GDP, unemployment rate and employment rate in Nigeria. It is therefore recommended that Nigeria government should re-strategies its human capital development policies and develop a programme to solve human capital development need in terms of education and health because at present, based on the statistic available there is insignificant relationship between human capital development and economic growth. The Nigerian Government should try to monitor how the money meant for human capital development expensed or whether this money is actually used.

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