HUMAN CAPITAL ACCOUNTING AND SUSTAINABLE DEVELOPMENT GOALS (SDGS): EVIDENCE FROM NIGERIA

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Abstract

This paper assessed whether human capital accounting is a panacea for attaining sustainable development goals (SDGs) in Nigeria. Data of human capital accounting (measured by sustainability reporting) and sustainable development goals (measured by capital employed: CEE and human capital efficiency: HCE) were obtained for thirty-one (31) listed firms on Nigerian Stock Exchange during the period 2013-2017. Whilst the correlation results suggest that CEE negatively relates with HCA, HCE has a positive link with HCA. In addition, the log-linear regression model showed that human capital accounting has significant impact on sustainable development goals; this is a clear indication that human capital accounting is a panacea for attaining the sustainable development goals in Nigeria. In view of this, it was recommended that at firm levels, organizations are encouraged to engage in comprehensive and all-embracing human capital development programmes in order to sustain and promote the sustainable development goals in areas of equitable quality education and lifelong learning opportunities. As a matter of fact, the government should

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assist firms in creating the needed stand for all-inclusive human capital development programmes, especially in aspects of empowering employees with the right training and skills needed in the work environment. This will ensure a healthy and viable workforce and harness economic growth for the nation.

Keywords: Sustainable development goals; Human capital accounting; Human capital efficiency; Capital employed efficiency; Nigeria

JEL Classification: M1, M2, M5

1. INTRODUCTION

The sustainable development goals (SDGs) are policy guidelines and funding agendas of the United Nations initiated by all member countries. Prior to the initiation of the SDGs, Nigeria had implemented the millennium development goals (MDGs), which according to Olagoke (2017), served as a catalyst for the SDGs. Like every other member state of the UN, Nigeria adopted the UN 2030 agenda for sustainable development as a means of eradicating poverty, securing healthy living, and building a peaceful, inclusive society as a foundation for ensuring a life of dignity for all in the future. The SDGs has a set of seventeen (17) integrated and indivisible goals broken down to measurable targets and indicators (UNDP, 2016). In 2015, Nigeria began to implement SDGs as a direct replacement and offspring of the activities earlier carried out under the MDGs.

The SDGs according to the UN (2019), is the organizing basis for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystems services upon which the economy and society depends. The desirable outcome of the SDGs is a state of society where living conditions and human resource use continue to meet the needs of the society without undermining the integrity and stability of natural systems. The mechanisms working jointly to produce SDGs are economic, social and environmental development (UN General Assembly, 2005). These components are conceptualized, planned and implemented jointly by Nigerian government in order to realize the desired outcome. Hence, sustainable development in a way has a moral dimension that requires a great deal of responsibility from the Nigerian government and its citizens.

The SDGs are to be accomplished by all member nations by 2030. Summarily, the SDGs goals according to Olagoke (2017); Adeyemi, Oseni and Awode (2018) are to realize a universal plan and agenda to resolve some of the pressing problems militating against the world in areas of poverty, food security lifelong learning opportunities, healthy living, decent work environment, sustainable economic growth, inequality within and among nations, gender equality among others; however, poverty is at the centre hob of the SDGs.

More importantly, the accelerated economic growth in developing nations like Nigeria is at the centre of effort to realize the SDGs). Not only is the rate of poverty, unemployment and health the greatest in this group for Nigeria, but the vital role of human capital accounting as a panacea for attaining SDGs in Nigeria has been undermined and not deeply researched. This perhaps is one of the most challenging issues for attaining SDGs in Nigeria. In the light of this, this paper was carried out with the view to ascertaining whether human capital accounting is a panacea for attaining SDGs in Nigeria using SDGs metrics of human capital efficiency and capital employed efficiency and human capital measure of sustainability reporting. The lingering part of this paper is sectioned as follows: review of related literature, materials/methods, results/discussions, conclusion and recommendations.

2. REVIEW OF RELATED LITERATURE

2.1. HUMAN CAPITAL DEVELOPMENT

Generally, development is a broad ongoing multi-faceted set of activities involving training and learning aimed at bringing individuals to another threshold, often to better his/her standard of living, reduction in unemployment as well as performing a given task. Human capital usually suggests a broader view of knowledge and skills acquisition than training (Abbas, 2010). In the views of Adeleye Adegbite and Aderemi (2014), human capital is concerned more with individual’s potentials than with immediate skills and sees individuals as adaptable resources.

The purpose of human capital development is to improve knowledge and skills and to change attitude (Okoro & Eyenubo, 2014; Ologunowa, Akintunde & Adu, 2015). Gratton and Ghoshal (2015) argued that human capital development is capable of reducing poverty, hunger, enhancing quality education, lifelong learning opportunities, upright work milieu, innovation, and actualizing sustainable economic wellness. Thus, human capital development is two interrelated processes whose import cannot be overstressed for a given firm or nation.

2.2. CONCEPTUALIZATION OF HUMAN CAPITAL ACCOUNTING

The notion of human capital accounting (HCA) stems from the fact that since humans are valuable resources in organizational and countrywide settings, there is the need for its recognition, measurement and disclosure by firms and nations in a manner that will enable the effective and efficient utilization. In accounting literature, the issue of disclosing the value of human capital in financial statements became prominent in the accounting prior to the documentations of Theeke (2005). Currently, HCA has become a vital part of the domain of intellectual capital and is fundamental to those interested in valuing intangible assets. HCA according to Hansen (2007) implies accounting for people as an organizational and national resource. Similarly, Luhar (2006); Uliana, Macey and Grant (2005) refers to HCA as the method that acknowledges a variety of human resources and shows them on a firm’s and nation’s statement of financial position. Thus, HCA can be well seen as a process of identifying, measuring and communicating information about the value of humans in firm/nation to permit effective management of such people within that setting.

Studies by Wright, Dunford and Snell (2001); Stiles and Kulvisaechana (2004) have indicated that emphasis on what contributes to competitive advantage of firms/ nations has drifted from material/financial resources to a knowledge-based economy where human capital is a key to sustaining and promoting economic policies such as in the case of SDGs. Thus, the debate is that competitive advantage of any firm/nation largely depends on its ability to drive human capital towards attaining developmental goals both in the short and long-runs.

Generally, human capital is perceived to comprise of individual's capabilities, skills, knowledge, experience and capacity to augment reservoir of skills, knowledge and experience through learning and training. Consequently, this calls for the need of knowing the cumulative values of a firm/nation's human capital. Perhaps, this idea is behind one of the reasons why human capital is seen as a major driver of SDGs in most firms/countries of the world.

2.3. SUSTAINABLE DEVELOPMENT GOALS (SDGS)

There is no specific definition for sustainable development but the key notion peculiar to all definitions centres on resource exploitation at a rate that would not be detrimental to future generations. According to the Complete A-Z Geography Handbook, sustainable development is defined as 'development that meets the needs of the present, devoid of compromising future generations to meet their own needs. According to Todaro and Smith (2011), the United Nations set eight (8) goals to be attained by 2015 which were eradicating extreme poverty/hunger, attaining universal primary education, dampening gender inequality and empowering women, reducing child mortality, improving maternal health, combating HIV/AIDS, malaria, and other illness, ensuring environmental sustainability and developing a global partnership for development. However, given the dynamics in the needs of national and global economies, there was the need to revise or formulate another set of policies which were deemed to be achieved in 2020 and beyond – the Sustainable Development Goals (SDGs).

The SDGs are geared towards realizing a technology-based, open and transparent economy and reporting systems for nations. According to the United Nations (2019), SDGs is formulated towards ensuring that all human beings enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature. Thus, the core philosophy of the SDGs is aimed at creating conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, eradicating poverty, and taking into cognizance diverse levels of national development and capacities (UN, 2019). Thus, SDGs reflects two (2) main economic ideas that are sturdily intertwined – economic growth and employment/decent work. The idea is that more people in decent jobs and healthier workforce can lead to sturdier and more inclusive economic growth, and vice versa.

There are twelve (12) targets underlying the SDGs which most countries of the world including Nigeria, deemed to attain by 2020 and beyond – [1]economic growth, [2]technology and diversification, [3]global resource efficiency (in terms of human capital efficiency and capital employed efficiency); [4]inclusive employment, [5]labour rights, [6]health, [7]work safety; [8]forced labour, [0]child soldiers and [10]child labour; [11]financial access and [12]aid for trade. However, this paper is premised on one aspect of the SDGs - global resource efficiency (gauged by human capital efficiency and capital employed efficiency).

Adeyemi, Oseni and Awode (2018) delineated some of the objectives of the SDGs to encompass putting an end to poverty and hunger, realizing food security and better nutrition, promoting sustainable agriculture and lifelong learning opportunities, ensuring healthy living for all at all ages, inclusive and equitable quality education, promoting sustainable economic growth, decent work environment, reducing inequality within and among nations, achieving gender equality, strengthening avenues of implementing and revitalizing global partnership for sustainable development among others.

2.4. SOME PRIOR STUDIES

There is dearth of empirical to affirm whether human capital accounting is a panacea for attaining sustainable development goals (SDGs) in Nigeria; however, prior studies focused on human capital development and SDGs in Nigeria, and globally. For instance, Adeyemi, Oseni and Awode (2018) x-rayed the impact of human capital development (HCD) on poverty alleviation in Nigeria (1990-2017) using metrics of prevalence of poverty rate as a percentage of aggregate population, unemployment rates, real government expenditures on education and health. The log-linear regression result showed that real government expenditure on education and unemployment rate both have significant impact on the prevalence of poverty in Nigeria. Besides, real government expenditure on health negatively affects the prevalence of poverty rate in Nigeria.

Similarly, Lawrence (2018) explored the challenges affecting the actualization of the SDGs in Nigeria. Findings revealed that the challenges facing the actualization of the SDGs in Nigeria among others include the continuous advancement towards making more potent weapons of mass destruction, improving legislation to prevent these proliferations and as well as coordinating scientific efforts towards better achievement of the SDGs. In addition, it was shown that education in its entire ramification is a key indicator for attaining the SDGs better.

Inna and Plastun (2017) examined the diverse roles of the professional accountants in achieving the SDGs. The study identified three (3) key roles of professional accountants in attaining the SDGs to include strategic, operational and reporting framework. However, findings of the study indicated that the functional roles of professional accountants and their positions clearly correlate with SDGs.

Olagoke (2017) evaluated the roles of Nigeria's indigenous languages in attaining the SDGs in Nigeria. Findings of the study indicated that the high level of illiteracy has been the major cause for the increased poverty and underdevelopment in Nigeria. Moreso, the study showed that Nigeria has not met twenty-five (25) of the MDGs before transiting to the SDGs.

2.5. THEORETICAL UNDERPINNING

In this paper, the theoretical underpinning is premised on ‘training-learning paradigm (TLP) advocated by Kirkpatrick Donald. According to Clark (2008), the TLP emphasizes a 4-step for advancing human capital so as to augment and evaluate how it contributes to an organization, society and nation growth. These steps are reaction, learning, performance and results. *Reaction* – implies how learners react to learning processes; *Learning* – suggests the magnitude to which learners gain knowledge/skills; *Performance* – indicates the capability to perform learned skills; and *Results* – are items like effectiveness (Oyinlola & Adam, 2013). The underlying philosophy of TLP is all about how certain organizational and governmental policies can be actualized via accounting for the human capital by engaging employees (organization) and citizens (nation) in diverse training and development programs.

More importantly, while growing the skills of employees and nation, they incur certain costs (which must be accounted for –human capital accounting). Perhaps, growing the skills is aimed at promoting and sustaining economic policies of organizations and nations; hence the need for organizations and government, formulating diverse programmes like sustainable development goals (SDGs) aimed at growing its human capital.

What is more, accounting for the human capital must also be available in government and organization circles, thus the need to diverse human capital accounting metrics (such as human capital efficiency, capital employed efficiency etc.), which are aimed at estimating human capital that can assist in sustaining economics goals (SDGs). Thus, accounting for human capital and SDGs are core issues that must not be overlooked.

3. MATERIALS AND METHODS

In this paper, the ex-post facto design was adopted and secondary data were obtained from the annual reports and accounts of thirty-one (31) listed firms on the Nigerian Stock Exchange (NSE) during the period 2013-2017. The stratified random sampling technique was employed in selecting the listed firms. Secondary data of human capital employed and human capital efficiency (measures for SDGs) and sustainability reporting (a measure for human capital accounting) was obtained. To examine whether human capital accounting is a panacea for attainting sustainable development goals (SDGs), equations 1-3 were estimated:

$$SDG = f(HCA) \qquad Eq.\ 1$$
$$CEE = f(HCA) \qquad Eq.\ 2$$
$$HCE = f(HCA) \qquad Eq.\ 3$$

Equations 1-3 are expressed in explicit forms by initiating the regression coefficients:

$$SDG_{it} \quad = \quad \alpha+\beta_1 HCA_t + \varepsilon_{it} \qquad Eq.\ 4a$$
$$CEE_{it} \quad = \quad \alpha+\beta_1 HCA_t + \varepsilon_{it} \qquad Eq.\ 4b$$
$$HCE_{it} \quad = \quad \alpha+\beta_1 HCA_t + \varepsilon_{it} \qquad Eq.\ 4c$$

In order to resolve scaling problems, variable of HCA was logged, resulting to models 5a-5c:

$$SDG_{it} = \quad \alpha+\beta_1 HCAi_{tLog} + \varepsilon_{it} \qquad Eq.\ 5a$$
$$CEE_{it} = \quad \alpha+\beta_1 HCA_{itLog} + \varepsilon_{it} \qquad Eq.\ 5b$$
$$HCE_{it} = \quad \alpha+\beta_1 HCA_{itLog} + \varepsilon_{it} \qquad Eq.\ 5c$$

Description of Variables

SDG: Sustainable development goals (measured by human capital employed and human capital efficiency ratios)
HCA: Human capital accounting (measured as sustainable reporting)
CEE: Capital employed efficiency
HCE: Human capital efficiency
β_1: Coefficients of explanatory variables,
ε_{it}: Error term.

4. RESULTS AND DISCUSSIONS

Table 1. *Descriptive Statistics of Human Capital Accounting and Sustainable Development Goals Metrics*

	HCA	CEE	HCE
Mean	4.988766	.2935484	4.700968
Maximum	6.37	1.20	23.05
Minimum	2.26	0.07	0.57
Std. Dev.	.7676825	.190661	3.81009
Skewness	.96643	.76377	.82355
Kurtosis	3.995	28.270	21.116
Jarque-Bera	3.144	7.589	6.926
Probability	0.00083	0.0000	0.0000
Observation	155	155	155

Source: Computed by Research, 2019

Presented in table 1 are the metrics for human capital accounting and sustainable development goals (SDGs). The descriptive results showed that HCA has an average value of 4.99, maximum value of 6.37 and minimum value of 2.26. HCA was positively skewed with a value of 0.97and a Jacque-Bera value of 3.144. This indicates a high degree of variability of the data among the firms. In addition, CEE has an average value of .29, maximum value of 1.20 and minimum value of 0.07. CEE was positively skewed with a value of .764 and a Jacque-Bera value of 7.589. This suggests a high degree of variability of the data among firms. Also, HCE recorded an average of 4.70, maximum value of 23.05 and minimum value of

0.57. HCE was positively skewed with a value of .823 and a Jacque-Bera value of 6.93. This implies a high degree of variability of the data among firms.

Table 2. *Correlation Statistics for Human Capital Accounting and Sustainable Development Goals Metrics*

	HCA	CEE	HCE
HCA	1.0000		
CEE	-0.1365	1.0000	
HCE	0.2070	0.0367	1.0000

Source: Computed by Research, 2019

The table showed that the coefficient of correlation of the variables with respect to itself is 1.000. The result implies that only one of the metrics of SDGs (HCE) had a positive association with human capital accounting metrics (HCA). This is an indication that SDGs (CEE) negatively relates with human capital accounting (HCA) and the opposite is the case for SDGs parameter of HCE. Besides, the highest coefficient was recorded between HCA and HCE with value 0.2070 which is less than 0.80; thus there is the absence of multi-collinearity among the variables.

Table 3. *OLS Parameters for Human Capital Accounting and Sustainable Development Goals Metrics*

Variables	Coefficient	t-ratio	f-ratio	R-squared	Prob.
HCA					
CEE	.4637699	-2.60	6.80	0.761	0.0009
HCE	.3994122	4.72	12.88	0.840	0.0001

Source: Computed by Research, 2019

Presented in table 3 are the regression parameters for human capital accounting and sustainable development goals metrics. The R-squared value 0.761 and 0.840 are impressive, indicating that 76 and 84 percent of the systematic variations in SDGs metrics (CEE & HCE) has been explained by HCA. This suggests that the estimated model has a good predictive power; hence one can argue that a significant nexus exists between human capital accounting and sustainable development goals. This implies that human capital accounting can serve as a panacea for attaining sustainable development goals (SDGS) in Nigeria. Besides, there is a negative link between CEE and HCA, implying that HCA negatively affects CEE. This calls for further policy implementation.

5. CONCLUSION AND RECOMMENDATIONS

The analysis whether human capital accounting is a panacea for attaining sustainable development goals (SDGs) in Nigeria was investigated during the period 2013-2017. First, the correlation results suggest that while SDGs metrics of CEE negatively relates with human capital accounting, SDGs parameter of HCE has a positive association with HCA. More importantly, the log-linear regression model showed that human capital accounting has significant impact on sustainable development goals in Nigeria. This is a clear indication that human capital accounting is a panacea for attaining the sustainable development goals in Nigeria.

In view of this, it is recommended that at firm levels, organizations are encouraged to engage in comprehensive and all-embracing human capital development programmes in order to sustain and promote the sustainable development goals in areas of equitable quality education and lifelong learning opportunities for all. As a matter of fact, the government should assist firms in creating the needed stand for all-inclusive human capital development programmes, especially in aspects of empowering employees with the right training and skills needed in the work environment. Perhaps, this will ensure a healthy and viable workforce and harness economic growth for the nation.

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