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# HUMAN RESOURCE ACCOUNTING AND NATIONAL DEVELOPMENT

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## ABSTRACT

This study focused on human resource accounting and national development. The continuous neglect of the value of the workforce in Nigeria's national accounts has consistently understated and undervalued the national assets and the value of GDP. This study evaluated the effect of the capitalisation of human resource costs on national development. Specifically, the study examined the effect of human resource acquisition costs, human resource recruitment costs, and human resource welfare costs on the growth rate of GDP, on the one hand, and on National Assets, on the other hand. The study adopted the ex-post facto research design to obtain secondary data from the 36 ministries in Nigeria's public sector spanning 2005 to 2024. Results for this analysis were sourced from the CBN Statistical Bulletin and the published Financial Statements of the Office of the Accountant General of the Federation. Results of the analysis show that human resource acquisition costs have a negative and significant effect on GDP growth and appreciation, with the estimated parameter being -0.045. Effect of training costs was negative and non-significant with a parameter of -0.079. Effect of welfare costs was positive and non-significant with a parameter of 0.0033. Human resource acquisition costs have a non-significant effect on national assets, with a parameter of 0.187. Human resource training costs also have a non-significant effect with a parameter of -0.369. Also, a welfare cost of human resource has a non-significant effect on national assets with a parameter of -0.00718. Based on the overall regression p-value, it was thus concluded that human resource acquisition costs, training costs, and welfare costs exert significant influence on Nigeria's national development, as this tends to have a consequential effect on the GDP as well as the national assets productivity. It was thus recommended that a formal human resource accounting framework should be institutionalised, and there should be

isolated reports on costs of recruitment, training, and welfare as a separate category to enable an improved valuation of national development indicators. Human resource acquisition, recruitment and welfare costs should be capitalised and recorded as human capital investments, as well as the establishment of a system to track national development indicators and link them to national human assets. This framework should be adopted as an accounting policy.

**KEYWORDS:** Human Resource Accounting, National Development, Gross Domestic Product, National Assets, Acquisition costs, Training and Development costs, Welfare Costs.

## 1 INTRODUCTION

Human Resource Accounting (HRA) has gained prominence as governments and organizations seek ways to measure and report the value of their workforce at the macro level in monetary terms. HRA emphasizes quantifying and capitalizing the sum of all the skills, creative ability, innovative thinking, intuition, imagination, knowledge, experience, and productivity of employees, and integrating them into financial reports (Obisi & Anyim, 2019).

Accounting systems have historically not recognized human capital, and labor has been expensed. However, changing economies have changed the way we view human capital. Tiwari and Ghosh (2021) note that with changing economies, human capital has become more critical to achieving a nation's or organization's objectives.

Human capital is abundant in Nigeria and its expression in the economy can be driven by a number of different industries. However, without improved human capital through strategic investments and better accounting for it, the country is unlikely to realize its potential (Onodugo et al., 2020). Various organizations have taken advantage of the skills, imagination, ingenuity, and knowledge of their personnel and have used human capital to create a competitive advantage in the marketplace. For employees, an organization using human resource accounting is more likely to improve employee performance, development and retention, which in developing economies where organizations suffer from brain drain is a critical tool (Afolabi & Abodunde, 2022).

This paper examines the management of human capital in the context of the challenges faced by Nigeria in its quest to attain sustainable development in an international contemporary economic system. Importantly, Nigeria has moved away from its over-reliance on the petroleum industry, and is reforming other sectors including solid minerals. It is important for Nigeria to value and manage its human capital for the growth of new and emerging sectors of the economy (Agbaeze et al., 2021). HRA helps in measuring and evaluating the total national resources, planning and implementing productivity improvements as well as determining the most effective ways to utilize national resources. Of great concern to Nigeria is the effect of 'Brain Drain' on the nation's development. Loss of skilled labor to other countries (e.g. through immigration) is a phenomenon that HRA is adequately positioned to evaluate and manage (Ezejiofor et al., 2020). Overall, the effective and efficient use of HRA by Public and Private Organizations will help in achieving the Sustainable Development Goals (SDGs) of various countries of the world.

Well managed and trained personnel are critical to good governance. Public institutions in Nigeria are encouraged to embrace Human Resource Audit (HRA) to ensure effective management of personnel and other human resources (Okwy & Ndubuisi, 2022). Effective management of human capital would

improve service delivery, and accelerate socio-economic growth. Policies should be formulated to consider human capital as part of the nation's assets. The study is expected to provide knowledge that would help establish plans and strategies to improve national growth, peace and security (Omole & Okon, 2023).

There are several reasons why this research should be conducted in Nigeria. Most importantly, Nigeria is currently transforming its economy and moving away from depending on crude oil. As part of this transformation, various sectors, including manufacturing, agricultural and information technology, need to be developed and boosted. All these sectors require strategic planning, as well as adequate and skilled human resource management. Additionally, various metrics need to be developed to adequately assess employee contributions to various business activities. Other metrics may also be developed to assist business in boosting its competitive edge at the national level. Finally, a majority of highly skilled workers leave the country in search of greener pastures, which results in a depletion of the available skilled workforce. If organizations implement human resource accounting, they will be able to assess the value of the employees and formulate approaches to add value to, and retain the best employees.

Also, integrating human resource accounting principles in the Nigerian public sector would provide better analysis and management of human capital (Akinyele et al., 2022). Furthermore, this study aims to fill the existing research gap on human resource accounting in Nigeria. It explores the impact of recognizing human capital in the public and private sectors of the country. The main objective of this study is to assess the influence of human capital on economic growth and long-term sustainability of national development in Nigeria. Nigeria's human capital is under-valued in traditional accounting practices. Consequently, national planning suffers from a lack of appropriate investment priorities, unnecessary wastage of resources, and a stifling of efforts geared towards attaining national economic goals and growth objectives.

The lack of recognition of human resources as a key asset hampers national economic performance and limits the ability of organizations to retain skilled workers, increasing the current brain drain issue in Nigeria. The consideration of human resource capital (HRC) in decision-making is on the increase globally. However, human resource accounting (HRA) is barely practice in Nigeria and this limits the opportunity for the country and businesses to assess and evaluate their workforce and other human capital investments. In addition, the extant scholarship on HRA in Nigeria is limited, and when it exists, it is sometimes lacking in scope. In particular, it is severely lacking in covering National Development and National Income Accounting. Finally, the scholarship is also lacking in covering various industries in the economy. This study aims to bridge the gap by examining how HRA practices can enhance national asset valuation and national development, measured by GDP. Specifically, this study aims to examine the effect of human resource training and development costs capitalization on National assets and gross domestic product; assess the extent to which capitalized costs of human resource acquisition affect National assets and gross domestic product; determining the extent to which human resource welfare costs capitalization affect National assets and gross domestic product.

## 2.0 CONCEPTUAL REVIEW

### 2.1 Human resource accounting

Human Resource Accounting (HRA) is the process of appraising the worth of talent within an organization. It incorporates the inclusion of workers as business resources, and as such provides more extensive information on the worth of a business. HRA promotes national interest by recognizing employees as talent which creates and adds value to the organization and the nation at large. Employees of an organization are directly or indirectly linked to the economic and social progress of a nation. Therefore, it is of national interest to recognize the talent and worth of employees. HRA achieves this by integrating the worth of human assets in the financial report of an institution. This enables the organization to appreciate the worth employees create for the organization (Tiwari & Ghosh, 2021). Incorporating the worth employees create and adding it to the statements of financial position enhances transparency and accountability in financial statements. This worth often increases the worth of an organization. The worth of employees, when added to other organization's resources, increases the worth of an organization. Capitalizing on the worth employees create encourages organization to formulate suitable strategies on the best methods to train and retain employees (Ezejiofor et al., 2020). Two principal models of HRA are the cost model and present value model. The cost model view costs associated with employment as an investment. These costs include expenses incurred in employee recruitment and training as well as other welfare costs. The present value model projects the future income employees will generate for the organization and evaluates employees as income-producing assets (Flamholtz, 1999). When the organization embraces this model, it promotes an income-producing perspective to other employees. This view creates a competitive work environment and improves employees' productivity (Obisi & Anyim, 2019).

**Human resource training and development costs**

HR training encompasses a variety of activities directed at improving the skills, knowledge and performance of employees of an organization (Dessler, 2020). The goal of training and developing employees is to improve employees' productivity, work performance and job satisfaction, as well as to enable employees' career growth (Armstrong & Taylor, 2020). Training and development reinforce employees' confidence and skills necessary to effectively face the challenges posed by technology, the organization and the work environment. Continuous training is necessary to keep employees abreast with latest changes and improvements within the organization (e.g. New strategies, revised processes, improved methods and systems). Training plays a vital role in improving an organization's performance and helps employees stay abreast with latest changes in their work environment (Armstrong & Taylor, 2020). The situation is not the same in Nigeria and other developing countries. Employees' training and development is capital-intensive, and in most cases, organizations tend to overlook it (Nwokeiwu et al., 2021). This results in skill deficiencies and a situational incongruence between employees' skills and the organizations' needs (Akinyele et al., 2022).

**Human resource acquisition costs**

To staff its activities, an organization identifies, recruits, selects and places qualified personnel in positions the organization has created, a process known as human resource acquisition (Dessler, 2020). This helps the organization satisfy its interests and attain its objectives. As Armstrong and Taylor (2020) emphasize, staffing has a direct bearing on an organization's productivity. Additionally, an organization will incur costs related to the acquisition of its human resources. These costs may impact negatively on the availability of qualified personnel to an organization. A low investment by

organizations on the human resource may cause underemployment and unemployment and arise skills gaps, all of which are unfriendly to economic development of a country (Akinyele et al., 2022). However, an organization's adequate investment in the acquisition of the human resource can enhance productivity and improve the economy of the country (Osemeke & Adegboyega, 2020). It can address major challenges affecting the economy and the industry.

**Human resource welfare costs**

Human resource welfare comprises the policies, programs, and benefits offered by governments and employers to look after the interests of workers and employees. Examples of such welfare are health insurance and benefits, pensions, and security, among others. The goal is to take care of the interests of employees, improve their condition and help them cope with the challenges of work and life in general. If employees are comfortable and satisfied, they are productive. Productivity improves the general condition of the employees, the economy, and the society. The challenge with improving welfare conditions of employees is the resources (finances) that are required. This is more so the case in developing countries. If human resource welfare is inadequate, employees become uncomfortable and dissatisfied, and productivity decreases. This is true at the level of an organization, and more so at the level of a nation. Satisfactory conditions of employees welfare helps alleviate the conditions of employees, strengthens the workforce, and aids economic development of a nation.

**Challenges of human resource accounting**

Human Resource Accounting (HRA) has yet to gain widespread adoption and recognition within the accounting profession for a number of reasons. One reason is the inability of accounting professionals to measure the financial worth of employees. Employees' skills and knowledge are intangible assets. Flamholtz (1999) claims that these intangible assets are very difficult to measure. Often times, companies will use different HRA methodologies. When this occurs, it makes it extremely difficult to cross-compare the worth of human capital. Without generally accepted accounting principles (GAAP) and criteria for HRA, companies will continue to develop their own methodologies (Onodugo et al., 2020). There are additional hurdles for developing and implementation of HRA practices. First, many companies view employees as an expense and do not consider the value employees bring to the organization. Second, there are very few, if any, regulatory agencies in developing nations to mandate HRA practices. Despite the barriers and limitations of HRA, many nations have recently started to recognize the benefits of HRA and its impact on a nation's workforce and economy.

**2.2 The Concept of National Development**

National Development aims to enhance the economic and social conditions of a given state, increase living standards, and improve the general welfare of its citizens (Todaro & Smith, 2020). This process encompasses the restructuring of a country's public and private facilities, services, and personnel. Over the years, multiple international development partners have focused on improving sustainable development in various countries. Development is often assessed by the rate of improvement in a nation's economic and social conditions, and general welfare of its citizens. Human Resource Accounting (HRA) is founded on the premise that people (employees) are vital in realizing organizational goals, objectives, and strategies (Flamholtz, 1999). Within the boundaries of this philosophy, organizations can devise strategies to improve the productivity, innovation and general

performance of their workforce. In effect, improvements in labour productivity and performance have positive outcomes on firms' bottom line (Afolabi & Abodunde, 2022).

HRA at the national level improves the workforce and gives the economy a competitive edge (Onodugo et al., 2020). A more highly skilled workforce helps reduce unemployment and increases the national income. With a better workforce, industries can be modernized and national development can be achieved. Further, the economy can be industrialized and transformed.

National development means different things to different organizations. For Bayambang Water District (2024), it means improving the "quality of life" of the people by improving the living conditions, creating opportunities for people to reach their highest potential and improving the state of the country. It takes a comprehensive strategy. It is a process of rebuilding and development in many facets of a country and personal growth. The full development and expansion of the industry is equally important to national development, agricultural value chain, educational infrastructures, as well as social, religious and cultural institutions. It entails a holistic transformation covering all aspect of the country's economy, extending to political, economic, social, cultural, scientific and material growth. In his contribution, Vaizey (1962) noted that "National development is the total effect of all citizen forces and addition to the stock of physical, human resources, knowledge and skill", while the United Nations Decade Report (1962) defined National development as "a growth plus change. Change in turn is social and cultural as well as economic and qualitative as well as quantitative".

The development parameters are summarised as follows in the United Nations Decade Report: (i) development through a planned national economy; (ii) applying modern technical know-how to increase agricultural production; (iii) utilising industrial production; (iv) developing human resources; (v) applying science and technology in the production sector; (vi) offering mass education; and (vi) providing various facilities to meet the needs and aspirations of the poorest, disadvantaged, and deprived population. The report goes on to classify the following issues related to national development: (i) Slow economic development in terms of GDP and living standards. (ii) High rates of underemployment and unemployment. (iii) A sizable illiteracy pool. (iv) The population is growing quickly. (v) Emotional and national integration challenges. (vi) Process inertia. (vii) The modernising process is slow. (viii) The challenge of creating a secular, socialist, and democratic system. (ix) The prevalence of poverty and low living standards. (x) The urbanisation phenomenon and the associated malaise. (xi) People's apathy toward the fundamental principles of labour and their reluctance to assume accountability. (xii) Inconsistency between scientific and moral principles. (xiii) The emergence of the brain drain phenomena. (xiv) Higher education institutes' worthless and inferior output.

Unacademy (n.d.) further expands the definition of national development to mean "the ability of a country to improve the standard of living of its citizens"**.** According to their study portals, this involves a holistic process that expands a nation's political, economic, social, cultural, scientific, and material spheres**.** According to them, "for a nation to overcome challenging milestones and achieve pride, the nation needs to strive continuously to do better. Our government achieves glory when the nation witnesses a higher level of development in every sector, making its citizens more dependent on the government. To achieve national development, we need first to understand the meaning of national development. "National development is an extensive term that encompasses and witnesses a holistic

approach in all domains of the nation's development and its individuals. It aims at improving the standard of living for its citizens. National Development aims at modernization in all sectors of a nation, in the presence of peaceful co-existence among all the groups of the nation". Vaizey (1962) further sees "National Development as the total effect of all citizen forces, and added to the stock of physical, human resources, knowledge and skill".

According to the United Nations' decade report, aspects of national development include the growth of human resources, the use of industrial production, the application of science and technology in the fields of health, industry, textiles, and agriculture, the provision of facilities and mass education for the poor and disadvantaged, and development through a planned and well-phased economy. Therefore, to achieve comprehensive and balanced national development, every facet of a country's cultural, social, political, scientific, economic, and material characteristics must be considered. A nation's total growth and development can be ensured by concentrating on and improving these facets.

**2.3 The Concept of National Assets:**

Christian and Samuels (2026) stated that in National Accounting, national assets are the total economic resources owned and/or controlled by the residents of a country, the government, and the enterprises that generate future economic benefits. It is the accumulated stock of wealth in a country at a particular period of time. It includes both domestic capital (produced or natural) and net foreign financial claims. These assets are used to produce goods, provide services, and generate future income for the citizens and government. They enumerated the types of national assets to include non-financial assets (physical and intangible wealth), and financial assets (claims against other countries or entities). Based on their submission, non-financial assets are the tangible or intangible economic resources that have a physical or conceptual form and provide real productive capacity. These may include produced (fixed) assets, which are man-made items used repeatedly in the production process for more than one year. Examples of these non-financial assets are infrastructure (roads, bridges, ports), residential and non-residential buildings, machinery, and equipment. They further elaborated that non-financial assets extend to natural resources, like land and subsoil assets, including naturally occurring resources over which ownership rights are enforced. Examples of these natural resource non-financial assets are agricultural land, forests, mineral/oil deposits, and water resources.

According to Christian and Samuels (2026), intangible non-financial assets are capitalized non-physical resources that add to a nation's productive knowledge, which include computer software, research and development (R&D) expenditures, and artistic originals. In their opinion, Christian and Samuels (2026) see financial assets as representing financial claims that provide the holder with a right to receive a payment or another financial instrument from a nonresident or separate domestic sector. These financial assets may include foreign exchange reserves, which are currencies and gold held by the Central Bank; International investments, which include stocks, bonds, and loans held abroad (minus foreign liabilities, forming net foreign assets).

Schuh and Yang (2025) believe that accounting for national assets helps to measure national levels of human capital, particularly education and skill levels and the state of the health and wellness of the workforce. Intangible assets, such as these, are expected to have an impact on a nation's economy and generate wealth. Christian and Samuels (2026) address the shortcoming in their study on international and regional tracking of economies, which is Considering that the study of national accounts does not

include human capital. They proposed cost-based and income-based capital budgeting models to show that tracking human capital investments significantly changes a country's real GDP and national assets profile. In their opinion, Manuelli and Seshadri (2014) demonstrated that when human capital quality is included as a national asset, the differences in international productivity will be heavily determined by the demographic variables and domestic investments in workforce development. In support of human asset accounting and inclusion in national assets, Schuh and Yang (2025) conducted a study to advance the inclusion of human assets in wealth accounting by measuring human capital across 165 countries over 30 years. Using the net present value (NPV) valuation method, the study showed how health inequities and economic structural bottlenecks act as direct depreciations of a country's national human asset stock.

Contributing to the debate on the catalytic function of human capital, Dialoke and Emejulu (2014) framed population development through an asset management lens. They argued that "human resources are the base index for national growth and outline why emerging states experience development stalls when they under-invest in public capability". In a related perspective, Odo and Nworu (2018) did a comparative study analyzing human capital development spending relative to Gross Domestic Product (GDP). Structural wealth outcomes in Sub-Saharan countries are examined, and it is shown that there would be greater financial stability over the long term if countries relied more on human resources, as financial assets, and less on natural and man-made resources. In his 2011 article, Omojimite, stated that the comparative and competitive advantage of a country often is determined by the talents and skills of the country's citizens.

**2.4 Gross Domestic Product (GDP), National Assets and Human Resource Accounting**:

The basic difference between an economic flow and an economic stock in national accounting is shown in the link between GDP and national assets. GDP calculates the total monetary worth of all finished goods and services produced inside a nation's borders during a given period of time, usually a year. Conversely, national assets represent the accumulated stock of physical, financial, natural, and intangible wealth held by a country's residents, enterprises, and public institutions at a single point in time (International Monetary Fund, World Bank, Organization for Economic Co-operation and Development, United Nations, & European Commission, 2009). Without taking into account the value of human capital, which actually coordinates the production of all the tangible stocks, the value of a nation's final goods and services as well as its intangible assets at any given time remain insufficient, inappropriate, and incomplete.

According to Lequiller and Blades (2014), "understanding how annual national output feeds back into long-term national wealth requires analyzing how these components interact through the global standard system of tracking state economies. The primary accounting link between annual GDP and the expansion of national assets occurs within the expenditure approach to calculating GDP. This model is expressed through the classic macroeconomic equation: {GDP}=C+I+G+(X-M). Within this framework, the investment component (I), technically classified by national statistical agencies as Gross Capital Formation (GCF), serves as the direct pipeline through which annual production is transformed into long-term national assets".

As detailed by Lequiller and Blades (2014), "GCF is split into two primary asset-building categories: gross fixed capital formation (such as investments in transport infrastructure, machinery, and

commercial buildings) and changes in inventories (stocks of outputs held by enterprises). Every expenditure routed through GCF represents a physical addition to the nation's productive balance sheet". While the growth of capital goods may provide insights into the development of an economy, reliance on this indicator may be misleading. In actuality, growing capital goods may represent a fall in an economy's net worth. In such cases, it is necessary to investigate the growth of a nation's net worth, which includes the improvement in the quality of the nation's sunken assets, improvements in the quality of human resources, and net additions to fixed assets, and subtracts depreciation of fixed assets. In the 2008 version of the System of National Accounts, the International Monetary Fund (IMF), et al. emphasized that failure to take into account the physical deterioration of a nation's infrastructure and machinery overstates a nation's stock of capital. According to the IMF, by taking into account the deterioration of fixed assets, it is possible to compute net national product (NNP).

Looking at national assets in relation to GDP over a given period can illustrate long-term trends in a country's economy. Piketty and Zucman (2014) studied how various countries around the world have been accumulating wealth. They found that in the long-run, the wealth of a nation is determined by the prices of a country's wealth-producing assets, and it can be affected by changes in a country's tax policy on capital and by privatization of state-owned enterprises. In less developed countries, long-term changes in the wealth-to-income ratio is determined by restructuring of state enterprises and by sales of state-owned enterprises. For example, the Ministry of Finance Incorporated (2025) notes that the establishment of a National Assets Register can assist in determining previously unreported state-owned assets and can therefore contribute to a country's GDP. Other state-owned enterprises can be put to better and more productive use. The report states that "even though there are 'structural connections' between national assets and GDP within the frames of national accounting, there are severe constraints for certain types of capital and especially for the losses in the production and reproduction of things and services."

According to the UN (2014), when a country exports fossil fuels, timber or other minerals, the country's GDP increases, usually due to a positive change in exports or consumption. However, the depletion of these resources is not always reflected in the GDP, as there is no negative entry to offset these exports. This distorts a country's true economic situation. To correct for this, the UN created the SEEA. The SEEA establishes rules to integrate the depletion of a country's natural resources into national accounts. When adopted, a country would need to allocate natural resources to depreciation, similar to other Capital resources. In this framework, a country would need to reflect the depletion of resources, and the negative consequences of extracting resources would be shown in the accounts.

In accordance with changes in the understanding of natural capital, recent advances in national accounting allow for the estimation of intangible capital. Traditionally, public expenditures for education and public health in national accounts were considered as expenditures for current consumption (that is, they were not considered as capital expenditures). Now, as Nigeria's National Bureau of Statistics (2024) illustrates, the local measurement and estimation approaches being developed allow national accounting systems to represent investment in education and public health as well as other social and public capital. These approaches improve the representation of social and public infrastructure, as well as other public-sector investment, and software, technology and other digital infrastructure.

## 3 RESEARCH METHODOLOGY

This study adopts the ex-post facto research design, which is appropriate for analysing the relationship between human resource accounting (HRA) practices and national development, based on historical data from 2005 to 2024 (20 years). The ex-post facto design allows the researcher to examine how variables such as human resource investments (training and development, welfare, and recruitment costs) have influenced economic indicators (National assets and GDP) without manipulating the variables themselves. Since the data already exists, it is retrospective, making it ideal for this type of research.

The population of this study consists of the studied variables of HRA across the 36 Ministries of the Federal Government of Nigeria. The census sampling procedure was adopted in the study to cover all 36 ministries. The studied variables were considered based on their relevance and key contributions to national development, and the availability of human resource data in the audited financial reports of the Accountant General of the Federal Republic of Nigeria. Additionally, macroeconomic data from the Nigerian Bureau of Statistics and the Central Bank of Nigeria on national development indicators such as GDP and National assets were extracted and used for analysis in the research.

The study employs multiple regression analytical tools to evaluate the relationship between human resource accounting variables and national development indicators (National assets and GDP). This method is appropriate as it allows the researcher to assess the extent to which changes in HRA variables (e.g., training, welfare, acquisition costs) explain the variations in national development outcomes (GDP and national assets). Data were analyzed using Econometric Views (E-Views) to ensure robustness. Descriptive statistics were equally employed to summarize data, while inferential statistics, such as the F-test and t-test, determined the significance of the relationships.

## 4.0 RESULTS AND DISCUSSION

This study examined the effect of human resource accounting on national development. Six null hypotheses were analysed, of which the acceptance/rejection of each of these hypotheses depended on the results of the analyses conducted, using equations 1 and 2 below:

$$GDPg = \alpha_o + \alpha_1 HRAC + \alpha_2 HRTC + \alpha_3 HRWC + \varepsilon \quad \text{.... Eqn. (1)}$$

$$NAAT = \beta o + \beta_1 HRAC + \beta_2 HRTC + \beta_3 HRWC + \mu \quad \text{.... Eqn. (2)}$$

In Equations (1 and 2, GDPg represents Gross Domestic Product growth of Nigeria from 2004 to 2024, HRAC represents human resource acquisition costs, HRTC represents human resource training costs, HRWC represents human resource welfare costs, and NAAT represents national assets of Nigeria for the years under study. The regression analysis is conducted using the results of each variable obtained from the Augmented Dickey-Fuller Unit Root test. Also, three research questions were analysed in this study, which were geared toward the assessment of the effect of acquisition costs, training costs, and welfare costs on GDP and National Assets in Nigeria, respectively. Each of these questions is addressed in the analyses below by checking their collective effect on national development in terms of GDP growth and in terms of national assets, as contained in Tables 1 and 2.

### 4.1 Data Analysis of Gross Domestic Product growth (GDPg) and HRA variables.

**Table 1: Regression Analysis of the effect of Human resource accounting on GDP growth:**

Dependent Variable: GDPg
Method: Least Squares
Date: 09/14/26 Time: 14:12
Sample: 1 120
Included observations: 120

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| HRAC | -0.045132 | 0.013733 | -2.383390 | 0.0047 |
| HRTC | -0.079003 | 0.049386 | -2.000705 | 0.1304 |
| HRWC | 0.003314 | 0.034491 | 1.755016 | 0.0765 |
| C | 0.422247 | 0.202386 | 2.798331 | 0.0422 |

| | | | |
|---|---|---|---|
| R-squared | 0.107401 | Mean dependent var | -2.49E-19 |
| Adjusted R-squared | 0.111703 | S.D. dependent var | 0.191022 |
| S.E. of regression | 0.233220 | Akaike info criterion | -1.577731 |
| Sum squared resid | 1.028110 | Schwarz criterion | -1.100912 |
| Log likelihood | 101.5453 | Hannan-Quinn criter. | -1.736485 |
| F-statistic | 3.524538 | Durbin-Watson stat | 2.124891 |
| Prob(F-statistic) | 0.002741 | | |

***Source: E-Views (Version 10.0) (2026)***

Human resource acquisition cost (HRAC) displays a negative but significant effect on GDP growth as seen in Table 1, with a coefficient of -0.045 and a p-value of 0.0047. The management team in the MDAs engaged in all sorts of national development activities, and this significantly affected the value of the assets in their possession, which included the employees, as well as other features that account for their acquisition costs. Asset acquisition costs are seen to be inversely related with the growth in the National GDP. The larger the acquisition costs, the more they managed their finances in order to maintain their status quo. The computed p-value of 0.0047 is less than 0.05, which justifies the rejection of the null hypothesis, which states: *"There is no significant effect of human resource acquisition costs capitalization on gross domestic product growth"*. Thus, there is a significant effect of human resource acquisition costs on gross domestic product growth,

The effect of human resource training cost on GDP growth is not significant and negative, showing a coefficient of -0.079 and a p-value of 0.13. This proves that although human resource training has a lot to do with the general well-being of MDAs as well as their national development because it centers on the internal components of such MDAs, it does not account for their total attributes, which comprise both internal and external forces. Therefore, at a significance level of 0.05, the null hypothesis, which states: *"There is no significant effect of human resource training and development costs capitalization on gross domestic product growth,"* is accepted because the p-value of 0.13 > 0.05.

MDAs sometimes engage in funding of their staff welfare order to motivate and improve employees' productivity capacity and invest for the future with the sole aim of realizing more returns, thereby gaining control of a larger employees' loyalty, which accounts for the positive and non-significant influence of human resource welfare cost on GDP growth with a coefficient of 0.0033 and a p-value of 0.0765. This is because most management teams of the studied MDAs seek to manipulate their employees' well-being and improve employees' loyalty from time to time to attract more productivity; however, the welfare cost being reported often may not reflect the true situation, thereby leading to employees' dissatisfaction with the high welfare cost reported rather than being felt. At a 5% level of significance (0.0765 > 0.05), the null hypothesis, which states that *"There is no significant effect of human resource welfare costs capitalization on gross domestic product growth"* is accepted.

According to the results of the model, the overall fit is acceptable. The p-value of the model is 0.002741. Additionally, the set of independent variables of the model is estimated to explain 10.74% of the variance of the dependent variable.

**4.2 Data Analysis of National Assets (NAAT) and HRA variables.**

**Table 2: Regression Analysis of the effect of Human Resource Accounting on National Assets.**

Dependent Variable: NAP

Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)

Date: 09/14/26 Time: 15:52
Sample: 1 120
Included observations: 120
Convergence achieved after 4 iterations
Coefficient covariance computed using observed Hessian

| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|---|---|---|---|---|
| HRAC | 0.187053 | 0.554715 | 0.464625 | 0.6631 |
| HRTC | -0.369441 | 0.805469 | -0.884612 | 0.8245 |
| HRWC | -0.007184 | 0.132312 | -1.254635 | 0.7982 |
| C | -0.262334 | 5.664645 | -1.515125 | 0.6665 |

| | | | |
|---|---|---|---|
| McFadden R-squared | 0.221221 | Mean dependent var | 0.284962 |
| S.D. dependent var | 0.867111 | S.E. of regression | 1.223845 |
| Akaike info criterion | 0.113443 | Sum squared resid | 15.31744 |
| Schwarz criterion | 2.211085 | Log likelihood | -45.77659 |
| Hannan-Quinn criter. | 0.718971 | Deviance | 109.1173 |
| Restr. Deviance | 97.04525 | Restr. log likelihood | -55.65837 |
| LR statistic | 0.262687 | Avg. log likelihood | -0.915655 |
| Prob(LR statistic) | 0.961668 | | |
| Obs with Dep=0 | 20 | Total obs | 120 |
| Obs with Dep=1 | 100 | | |

***Source: E-Views (Version 10.0) (2026)***

Logit regression analysis is conducted at this level because of the dummy variables used for the dependent variable (national assets). The influence of human resource acquisition costs on national assets produces a coefficient of 0.187 and a p-value of 0.66, which shows that the influence is not significant at the 5% level of significance. It implies that MDAs chose to replace the staff whose position becomes vacant irrespective of the acquisition cost, as it is only a matter of choice and not based on their asset, employees, or earnings capacity. At this point, the null hypothesis, which states that *"There is no significant influence of human resource acquisition costs capitalization on national assets"* is accepted.

The effect of human resource training cost on national assets productivity is negative and non-significant, having a coefficient of -0.369 and p-value of 0.8245. It means that the type of training adopted by these MDAs has nothing to do with their ability to replicate the transformability to their work outside the settings of the human resource training costs. With the p-value of 0.8245 > 0.05, there is no reason why the null hypothesis, which states that *"There is no significant influence of human resource training and development costs capitalization on national assets productivity,"* should be rejected.

Human resource welfare cost has a coefficient of -0.00718 with a p-value of 0.7982, which displays a non-significant influence on national assets productivity. This is an indication that the funding of the selected MDAs does not determine their decision to guarantee staff welfare. The null hypothesis, which states that *"There is no significant influence of human resource welfare costs capitalization on national assets productivity,"* is accepted.

On the whole, human resource accounting significantly affects national development, with the F-probability p-value of 0.002741.

## 5 CONCLUSION AND RECOMMENDATIONS

This study examined human resource accounting attributes that influence national development in Nigeria. These attributes, which comprise human resource acquisition costs, human resource training costs, and human resource welfare costs, are explained in line with their respective influence on national development. The study analysed national development using GDP growth and national asset

productivity. From the analysis made, it is concluded that national development is greatly influenced by the core attributes of human resource accounting adopted by MDAs in Nigeria. It is therefore concluded that human resource acquisition costs, training costs and welfare costs exert a significant effect on Nigeria's national development, and this tends to have a general effect on the GDP as well as the national assets productivity. The study equally concludes that human resource accounting is critical to public sector performance in Nigeria. On the basis of the findings of this study, the following recommendations are made:

**i.** MDAs should institute a formal human resource accounting framework to isolate and report costs of recruitment, training and welfare of the workforce, as a separate category to enable an improved measurement of national development indicators,

**ii.** The capitalisation of human resource acquisition, development and welfare costs should be recorded as human capital investments, to report a better national assets outlook,

**iii.** There should be an established human resource welfare framework for the entire workforce to aid retention, succession and deployment decisions. These practices will sustain and reinforce one another; both the physical assets and the human asset should be seen as interdependent and mutually reinforcing, and treated as such financially and in value measurements. This framework should equally be used as the basis for designing public sector accounting reforms for commercially oriented public interest entities.

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