

UNIVERSITY GOVERNANCE: TETFUND AND HUMAN CAPITAL DEVELOPMENT IN PERSPECTIVE

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Abstract

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The study focuses on university governance with specific interest in the contributions of the Tertiary Education Trust Fund (TETFund) to human capital development in Nigerian public universities (NPU). Three research questions and hypotheses were formulated to guide the study. Data for the study were generated via secondary sources and primary sources using a questionnaire. A designed questionnaire was administered to 300 academic staff randomly and purposely selected from a pool of 3,000 academic staff. The answers from the respondents were coded and analyzed using a computer-based software — Statistical Package for Social Science (SPSS) version 21. Data gathered via the questionnaire administered are presented in tables and graphically illustrated. The findings of the study revealed, among others, that TETFund interventions in the area of staff training and development; conference and workshop attendance sponsorships, research grants, and educational support services have contributed significantly to human capital development in Nigerian public universities. Based on these findings, the study recommends a sustained and elaborate partnership between TETFund and public universities in the area of human capital development. It is also recommended that TETFund intervention should be expanded to cover more beneficiaries in the scheme.

Keywords: Nigeria, TETFund, Human Capital Development, Public Universities, Interventions

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1. INTRODUCTION

Tertiary educational institutions in Nigeria and public universities in particular are established to perform three basic functions teaching (training and the development of human resources of the country), conducting research for public and private consumption, and rendition of community service. The accomplishment of the above loadable objectives is driven by the right mixture of human and material resources largely defined in terms of academic and non-academic staff (who are usually considered as support staff in the university system); financial resources and other consumables (like equipment). Among the above organisational resources, human resource is the single most important factor contributing to organisational success, performance, productivity, and sustainable development and growth (Osman-Gani & Wee-Liang-Tan, 1998; Onah, 2015). Recognising the strategic role of human resources for present and future usage, Confucius (551BC–479BC), a Chinese social philosopher and thinker stated: “if you are planning for one year, plant rice, if you are planning for ten years, plant fruit trees, but if you are planning for hundred years, plant men” (as cited in Onah, 2015).

Given the strategic place of human resources in the university, organisations and society, Mohammed et al. (2022) advised that it be accorded extra attention to retaining it and demands training and development to build capacity and upgrade its competencies. Unfortunately, the demand for academic staff in Nigerian public universities (NPU) has not been matched with expansion in the system. According to Adesola (1991), the growth rate of the Nigerian university system has been phenomenal, perhaps faster than anywhere else in the globe with a doubling rate every 4 or 5 years. With a modest student enrolment of 3,646 in 1962/63, the country's university system now boasts of student enrolment that is estimated at 1.9 million (about 1% of the country's total population). Furthermore, the country now boasts 170 universities spread into 43 federal universities, 48 state universities, and 79 private universities (National Universities Commission [NUC], 2019).

The expansion in the number of public universities to cater to the growing number of applicants seeking admission, the strategic role of the university in developing and supplying the right human resources to manage the country's public and private organisations, the need to develop and train academic staff in order to meet up with challenges in the system, shortages in infrastructures in the Nigerian public universities, the introduction of new academic programmes, which call for the training, retraining, and development of academic staff and other factors necessitated the establishment of the Tertiary Education Trust Fund (TETFund). It was originally established as an Education Trust Fund (ETF) by Act No. 7 of 1993, amended by Act No. 40 of 1998, and later repealed and replaced with the TETFund Act 2011. The agency has 4 specific mandates and programmes: Academic Staff Training and Development (ASTD), Education Support Services (ESSs), Physical Infrastructure (PI), and ICT Support Intervention (ICTSI).

Since its establishment more than a decade ago, it has become imperative to assess the performance of TETFund as an intervention agency in addressing

the human capital development needs of the Nigerian public universities via academic staff training and development, educational service support, and research sponsorships. It is in light of this that this study is conducted to assess the effect of TETFund on human capital development in Nigerian public universities from 2010 to 2018. The study stems from the assumption that developing the human resources of the university sector is one of the strategic steps in the accomplishment of the three goals for establishing public universities in Nigeria: teaching, research, and community service. Assessing the performance of TETFund in the training and development of academic staff of Nigerian public universities has become fundamental in light of the fact that public universities and public education, in general, are the core component of human resource development outlets and suppliers of skilled personnel for public and private organisations in the country and the world in general. Furthermore, 2% of the company income tax (CIT) in Nigeria goes to TETFund, thus, how it is disbursed and spent should constitute one of the top concerns of public sector management.

The general objective of the study is to assess the effect of TETFund interventions on human capital development in NPUs from 2010 to 2018. However, the specific objectives of the study are to:

1) examine the extent to which TETFund interventions in the area of academic staff training and development have contributed to human capital development in NPUs;

2) analyse how TETFund interventions in the support of research undertakings have contributed to human capital development in NPUs;

3) find out the extent to which TETFund interventions in the area of education support services have enhanced human capital development in NPUs.

The following research questions are designed to guide the study:

RQ1: To what extent have TETFund interventions through academic staff training and development contributed to human capital development in Nigerian public universities?

RQ2: To what extent have TETFund interventions in research services contributed to human capital development in Nigerian public universities?

RQ3: To what extent have TETFund interventions in education support services contributed to human capital development in Nigerian public universities?

The study is organised as follows. Section 1 introduces the paper. This is followed by Section 2, which focuses on the literature review and the theoretical framework of the study. Section 3, Section 4, and Section 5, respectively, addressed the methodology, results, and discussions of the findings. The paper ends with concluding remarks and recommendations in Section 6.

2. LITERATURE REVIEW

2.1. Human capital and TETFund

Human capital is a theory in labour economics, where the marketable skill of workers is taken to be the capital. Bourdieu (1986) defined human capital as the form of learned abilities that have been acquired through formal training or education, or

through on-the-job experience. Human capital refers to individuals and persons who possess the necessary skills, competencies, knowledge, and attitudes required for national development. Human capital has also been defined as “any stock of knowledge or characteristics the worker has — either innate or acquired — that contributes to his or her productivity” (“The basic theory of human capital”, n.d.).

Human capital is historically traced back to the 17th century. Kiker (1966) averred that human capital theory was practiced in 1691 by Sir William Petty when he placed value on labourers and estimated the value of human capital to demonstrate the power of England. He also estimated the cost of life lost in war and other deaths, to know the value of human capital lost. He considered human beings as an investment that generates returns. A political economist, William Farr (1853, as cited in Kiker, 1966) is another proponent of human capital. He defined human capital as the present value of a person's earnings. This implies that the present value of a person determines his/her future earnings. On the part of Oyelude (2017), human capital is the investments that influence the well-being and productivity of people, firms, and nations. For instance, investments in health and nutrition as well as vocational training. Human capital may therefore be defined as any form of knowledge, skill, idea, and qualities employee acquire or innately possess that enhances their functionality, constructiveness, creativity, and productivity.

What is known as “TETFund” metamorphosed from ETF, which was established in 1993. Adavbiele (2016) averred that what brought about the promulgation of the ETF Decree No. 7 of January 1st, 1993, was the rate at which educational standard was declining and the dilapidating state of the infrastructure and other facilities in public tertiary educational institutions in Nigeria. At the tertiary institution, it was evident that there was an urgent need for funding to improve educational facilities and infrastructure, restore high morale for lecturers, attract and preserve qualitative entrants into the profession, and encourage professionalism in teaching and research.

TETFund Act was enacted in 2011 due to the inefficiency of the amended ETF Act No. 40 of 1998. TETFund was established as an intervention agency to provide supplementary support to all levels of public tertiary institutions. Its main objective is to use funds alongside a project management approach for the rehabilitation, restoration, and consolidation of tertiary education in Nigeria. Abutu (2018) observed that the TETFund Act of 2011 was established by the federal government to manage and disburse to public tertiary institutions funds gained through the impositions of a 2% tax on company profits, which is collected by the Federal Inland Revenue Service (FIRS) on behalf of TETFund. The author also affirmed that TETFund was saddled with the responsibility of providing physical infrastructure for teaching and learning, instructional material and equipment, research and publication support, and grants for academic staff training and development, for both federal and state tertiary institutions.

The management of the fund is carried out by the 11 members of a board of trustees, with members selected from the 6 geo-political zones of

the country, as well as representative of the Federal Ministry of Education, Federal Ministry of Finance, and the FIRS. The TETFund Board of Trustees are saddled with the underlisted responsibilities as stated in the Tertiary Education Trust Act of 2011.

1. Monitoring and ensuring that taxes are collected through the FIRS and that the funds are transferred to the TETFund purse.

2. Manage and disburse the tax revenue collected.

3. Liaise with appropriate ministries and bodies responsible for the collection or safe-keeping of the tax.

4. Receive requests and approve admit table projects after due consideration.

5. Ensure disbursement to various public tertiary education institutions in Nigeria.

6. Monitor and evaluate the execution of projects.

7. Invest funds in appropriate and safe securities.

8. Inform and update the federal government on its activities and progress through annual audited reports among the states of the federation in case of regular interventions.

9. Review progress and suggest improvement within the provisions of the Act.

10. Carry out other responsibilities as outlined and in consonant with the objective of the federal government.

11. Draw out guidelines for the assessment of the fund by all beneficiaries and on the disbursement and use of monies received from the Fund.

12. Regulate the administration, application, and disbursement of monies from the Fund under the Act.

Human capital development is defined as the measure of skills, education, capacity, and attributes of labour that influence their productive capacity and earning potential (Pettinger, 2019). Pettinger (2019) outlines factors that determine human capital as skill and qualifications, education levels, work experience, social skills communication, intelligence, emotional intelligence, judgment, personality (hardworking and cooperative), habits and personality traits, creativity (ability to innovate new working practices and products), fame and brand image of an individual (such as celebrities paid to endorse a product), and geography (social peer pressure of local environment can also affect the expectations and attitudes of human capital).

Human capital development could be the product of a change or designed to initiate a change that is performance-related. Human capital development therefore is the process of improving an organisations' employee performance, capabilities, and resources. Swanson (2010) described human resource development as a process of developing and/or unleashing human expertise through organisation development (OD) and personnel training and development (T&D) for the purpose of improving performance. Kern (2009) also argued that investing in developing human capital will lead to a greater output. When the capacity, talent, skills, and intellect of the human capital are being developed through training, research, and workshops, there will be rapid development. Enyakit et al. (2011) rightly maintained that human capital development is a process of increasing human knowledge and enhancing human skills through vocational training and technical education for an increase in productivity

and the stimulation of the resourcefulness of trainees should be systematic, sustainable, and strategic. This implies that human capital development revolves around talent management, change management, performance management, human resource management, learning and development, succession planning, strategic planning workforce planning, and knowledge planning. The major tools for developing human capital are training, facilitation, coaching and consulting-research (Human Capital Development [HCD], 2008).

2.2. TETFund's performance in the development of tertiary institutions in Nigeria

TETFund has made a significant impact through interventions in the development of Nigerian tertiary institutions both at the federal and state levels. Currently, there are 215 beneficiaries of TETFund interventions spread into 81 public universities, 64 public polytechnics, and 70 government-owned colleges of education (COEs). Funds have been disbursed by TETFund for special intervention and the academic and infrastructural transformation and development of beneficiary institutions. In 2015, Jigawa College of Education's provost attested to the fact that the school has received a special intervention fund from TETFund worth N2 billion in the last 6 years. The fund was meant for the execution of projects, manpower development, and capacity building of the college lecturers (TETFund, 2017).

In Akwa, the provost of the Anambra state-owned college of education, Nwafor Orizu College of Education Nsugbe (NOCOEN) stated that the introduction of the fund has given a great boost to the development of infrastructure and has proved to be a veritable tool for the advancement of

quality education in the country (Ujumadu, 2015). In 2018, the sum of N161 billion was approved by the TETFund as intervention activities in Nigerian universities, polytechnics, and colleges of education. In the allocation of the money, each public university got N785,832,700; polytechnics received N536,703,502; and colleges of education were allocated N510,084,900.

To drive the mandate of TETFund to accomplishment, the following interventions lines were created by the Fund according to the circumspective Needs Assessment of Beneficiary Institutions (Bogoro, 2019; Ogundipe, 2021): physical infrastructure/programme upgrade; project maintenance; TETFund scholarship; teaching practice for COEs; equipment fabrication-polytechnics, entrepreneurship-universities, journal publication, manuscript development; conference attendance; information and communication technology (ICT) support; advocacy; institution based research (IBR); National Research Fund (NRF); and library development.

The statistical facts presented in Tables 1, 2, and 3 below further show the performance of TETFund in facilitating the development of tertiary education in Nigeria. The figures also demonstrated the impact of TETFund interventions in the area of human capital development in Nigerian tertiary educational institutions and other intervention areas. As can be seen in the tables, every year, TETFund has intervened financially in addressing the concerns of public universities, polytechnics, and colleges of education. How the funds disbursed by the Fund are utilised by beneficiary institutions has been a subject of concern in public sector management debates, public policy, and project analyses.

Table 1. TETFund financial interventions

S/N	TETFund financial interventions in Nigerian tertiary educational institutions	Year
1.	Each public university received N303 million, each public polytechnic received N216 million and each college of education N157 million.	2011
2.	In 2012 TETFund disbursed N595 million to each public university, polytechnics N337 million to each government-owned polytechnic across the country, and N319 million to each polytechnic.	2012
3.	N19 billion was spent by TETFund to train the academic staff of Nigeria's public tertiary education institutions.	2014
4.	TETFund disbursed N312.5 billion in 2016 allocation to public tertiary institutions across the country.	2016
5.	TETFund disbursed over N213 billion to public tertiary educational institutions across the country.	2017
6.	N134 billion was disbursed to government-owned tertiary institutions across the country.	2018
7.	N161 billion approved by the FG to be allocated as follows: N785,832,700 to each public university, N536,703,502 to each public polytechnic, and N510,084,900 to the college of education.	2019
8.	N7.5 billion approved by FG for 2020 TETFund Research Grant. 10,632 academic staff sponsored by TETFund in local Ph.D. programs, and 9,072 lecturers in local Master's degree programs across the country from 2011 to 2020. TETFund has sponsored over 4,485 academic staff to overseas institutions for Ph.D. programs and over 3,192 Master's degree candidates also overseas, across tertiary institutions from 2011 to 2020.	2020
9.	N277 billion was allocated in 2021 to provide critical infrastructure for 226 tertiary institutions across the country. N300 billion was disbursed in 2021 to 226 tertiary institutions in the country for staff training and infrastructural development projects. TETFund presented that N2.5 trillion has been expended in varsities and others in Nigeria.	2021
10.	N642,848,138.00 allocated to each public university across the country. Training of 1,761 academic staff on research proposal writing and research grant management skills.	2022

Source: Echono (2022), Alabi (2020), Ahon (2021), Erunke (2021), NUC (2020), Punch (2019), Sanni (2019), Paul (2017), Edeh (2017), and Mohammed (2014).

Table 2. Institution-based research (IBR) intervention (for January 2019)

S/N	Type of institution	Disbursement as of January 2019 (Naira)
1.	Universities	4,634,454,957.50
2.	Polytechnics	2,426,446,788.94
3.	Colleges of education	2,202,307,811.83

Source: Ogundipe (2021).

Table 3. Schedule of disbursements to public universities from inception to 2020 intervention year

S/N	Intervention area/Type	Allocation
1.	Physical infrastructure	301,267,989,210.93
2.	Special intervention	206,510,176,163.76
3.	Entrepreneurship development	10,875,000,000.00
4.	Project maintenance	7,170,000,000.00
5.	Library development	34,871,718,489.52
6.	Special High Impact Project (SHIP)	184,700,000,000.00
7.	Zonal intervention	55,171,587,754.00
8.	ICT support	4,525,000,000.00
9.	Advocacy	148,000,000.00
10.	Academic Staff Training and Development	115,119,670,654.25
11.	Institution based research	15,897,680,947.81
12.	Academic Research Journal	5,484,655,710.00
13.	Conference attendance	23,274,676,936.00
14.	Academic manuscript/Book development	3,862,100,000.00
	Total	968,878,255,866.27

Source: Ogunidipe (2021).

Tertiary institutions in Nigeria are commissioned to render services that are meaningful to the growth and development of our society (Udida et al., 2009). To render such meaningful service, there must be adequate training and research to gain knowledge and expertise. According to Ozumba and Chimakonam (2014), knowledge must be desired because of its utility in equipping man to handle his earthly and social existence. This implied that for one to be competent and fit as an academic or non-academic staff in the university system, there must be the drive and the enabling environment to acquire knowledge and skills. Studies have shown that oftentimes, individuals have an interest in learning but are constrained by internal and external situations around them. In this sense, they need to be motivated and supported by government institutions. Democratic and bureaucratic structures that provide motivational and supportive incentives to academic institutions in Nigeria are advocated (Agba et al., 2010).

This implied that high-quality education is required in order to make a high impact on the economic growth and development of the nation. Education is one of the most important tools in nation-building. It is through education that the various facets of the nation are developed and mobilized for national development. For instance, the manufacturing, productive, educational, agricultural, security, communication, and other sectors of the economy depend on a virile human capital development targeted at building the skills, knowledge base, abilities, and competence of the operators of these sectors.

At the heart of deploying human capital for societal transformation is the need for prudent use of budgeted financial resources by government agencies. This is the argument of Ocheni and Agba (2018), when advised that fiscal decentralisation and assigned fiscal responsibilities of governmental agencies in Nigeria should be backed up with prudent management of public expenditure (recurrent and capital) and part of public expenditure should be tailored towards developing the human resources of the country for social transformation and development.

2.3. Theoretical framework

The theoretical framework of this study is anchored on the human capital theory of Adam Smith (1723-1790s), which is also called the economic theory of human capital development. The theory which has its epistemic roots in the work of Adam Smith (1776) the "Wealth of Nations", emphasised the need to invest in the human capital or human resources to build their capacities, competences and abilities as a means of improving productivity of employees, organisations and the state. Thus, the human capital theory considers investment in formal education and training as highly instrumental in building the productive capacity of the workforce, society, and the organisation (Becker, 1993; Almendarez, 2011; Cohen & Soto, 2007; Olaniyan & Okemakinde, 2008). Fagerlind and Saha (1997) have argued that the human capital theory lays the foundation and justifies large public expenditure on education, research and training in both developed and developing countries. It presumes that there will be appreciable returns on investing in human resources of the nation by way of increased productivity, economic growth and development. It sees human resources as the ultimate foundation for the wealth of nations. For instance, countries like Hong Kong, Singapore, Japan, Taiwan have reaped these returns for investing massively to develop and build the capacities of their workforce.

The above indices of the human capital theory have ready application in the present study which examines the effects of TETFund interventions on human capital development in NPUs. As noted earlier, the theory recognises the need to invest in the human resources of the nation and organisation to build their capacities through education, training, and research. TETFund interventions are largely a massive public expenditure on academic staff training and development, which comes in the form of undertaking to shoulder the financial burden of academic staff in their attempt to acquire additional educational qualifications from foreign and national universities. Furthermore, as the theory of human capital development emphasises creating a productive population and workforce through education and

research, the TETFund interventions also come in the form of granting research grants to deserving proposals from academic staff in the university in order to create a conducive learning environment to build capacities, ability, and skills. TETFund has also embarked on improving the physical facilities of public universities by way of building classrooms and libraries and purchasing office equipment and books. This is an investment into the human resources of the nations as advocated by the human capital theory.

2.4. Hypotheses

The hypothesis is a tentative statement whose acceptance is by means of verification and empirical data analysed and tested. It serves as a compass and helps to guide the collection of data (Agba, 2020). For this study, three hypotheses were formulated to guide the study. The hypotheses are stated in both null and alternative forms. The three hypotheses were tested via statistical tools with the aid of Statistical Package for Social Sciences (SPSS) version 21.0.

The first hypothesis is formulated as follows:

H₀₁: TETFund intervention in academic staff training in Nigerian public universities does not account for human capital development in terms of the acquisition of additional educational qualifications and conference attendance.

H₁: TETFund intervention in academic staff training in Nigerian public universities does account for human capital development in terms of the acquisition of additional educational qualifications and conference attendance.

The second hypothesis is formulated as follows:

H₀₂: TETFund intervention in the sponsorship of research does not significantly account for human capital development in Nigerian public universities.

H₂: TETFund intervention in the sponsorship of research does significantly account for human capital development in Nigerian public universities.

The third hypothesis is formulated as follows:

H₀₃: TETFund intervention in education support services does not significantly account for human capital development in Nigerian public universities.

H₃: TETFund intervention in education support services does significantly account for human capital development in Nigerian public universities.

3. RESEARCH METHODOLOGY

A survey design involving the design and administration of a questionnaire was used to study the effects of TETFund on human capital development in NPUs from 2010 to 2018. The population of the study consists of academics from public universities in Nigeria. The academic staff in the sector were selected for the study since they are most affected by the interventions of TETFund. A total sample size of 300 academic staff in the sector was randomly selected from the study population of 3000. This represents 10% of the population of the study. The sample of the study consisted of lecturers and research fellows who have spent more than 3 years in the university sector as academic staff. The academic staff selected as study units were respondents who have benefitted from TETFund interventions or are knowledgeable about

the activities of TETFund as it relates to human capital development in NPUs. A simple random sampling technique was used to draw the sample size. Simple random sampling was used because it gives an equal chance (equiprobability) to academic staff from the various faculties and institutes in the University of Calabar to be included in the study units. Data for the study were generated from primary and secondary sources. The questionnaire was the primary source for generating the primary data of the study. It was designed and structured into sections with each of the sections designed to generate specific data: socio-demographic data, data on staff training and development, conference and workshop sponsorship, education support services, and research sponsorships. To ensure content validity, the questionnaire designed was evaluated by experts to ensure that it actually measured the intended variables of the study. For the secondary sources, the study utilised textbooks, journals, government publications, newspapers, magazines, and online materials obtained from the web like the TETFund website. Data generated from the field are presented in tables, charts, and graphs. All hypotheses of the study were tested using simple linear regression. This was statistically computed with the aid of the SPSS version 21.0. Human capital development in this study is measured by operationally focusing on the activities of TETFund that are directly related to the development of the capacity of human resources (academic staff) of NPUs.

4. RESULTS

4.1. The first hypothesis testing

The independent variable in this hypothesis (*H₁*) is *TETFund interventions in staff training and development*, while the dependent variable is *Human capital development*. Simple linear regression statistics were used to test this hypothesis at 0.05 alpha level and the result is presented in Table 4.

The result of the analysis as presented in Table 4 with a graphical illustration of data in Figures 1, 2, and 3 revealed an R-value of 0.140. The correlation coefficient is a standardized measure of an observed degree of relationship between the variables under study, it is a commonly used measure of the size of an effect, and values of ± 0.1 represent a small effect, ± 0.3 is a medium effect and ± 0.5 is a large effect. Also, the R^2 value of 0.025 implies that 25% of the total variance is accounted for by the predictor variable (*TETFund intervention in staff training*). Furthermore, the regression ANOVA revealed that the $F(1, 298) = 4.425$; $p < 0.05$, is significant. Thus, the null hypothesis (*H₀₁*) was rejected. This implies that there is a linear association (contribution) of the predictor variable (*TETFund intervention in staff training*) to human capital development in Nigerian public universities. The adjusted R^2 (0.024) shows some shrinkage of the unadjusted value (0.025) indicating that the model could be generalized on the population. Based on the result, it was concluded that TETFund intervention in staff training significantly contributes to human capital development in Nigerian public universities.

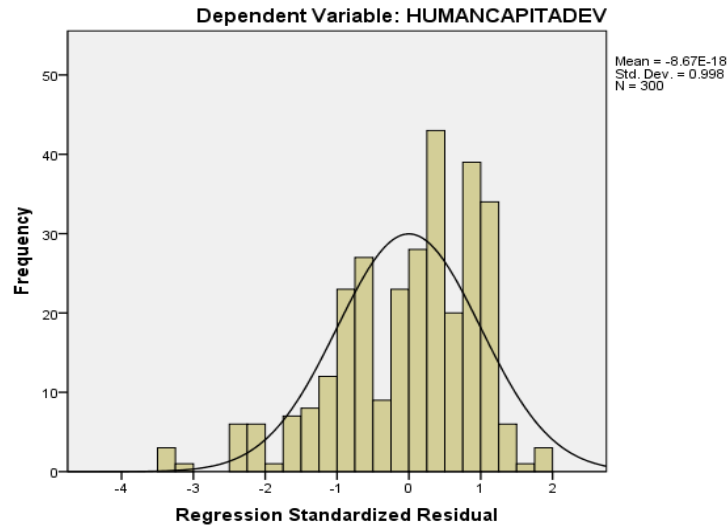
Table 4. Simple linear regression on TETFund staff training impact on human capital in Nigerian public universities

Variables		Mean	Std. deviation
TETFund intervention in staff training		9.5633	2.31745
Human capital development		20.3885	3.73727

Model	Sum of squares	df	Mean square	F	R	R-square	Adjusted R-square	Sig.	
1	Regression	33.330	1	33.330	4.425	0.140 ^a	0.025	0.024	0.031 ^a
	Residual	4095.817	298	13.744					
	Total	4129.147	299						

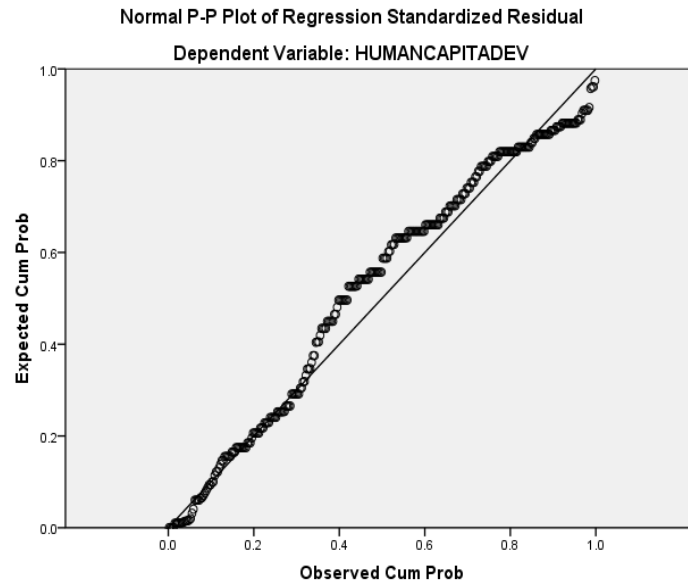
Source: SPSS output, 2019.

Figure 1. Simple linear regression graph of the impact of TETFund on staff training



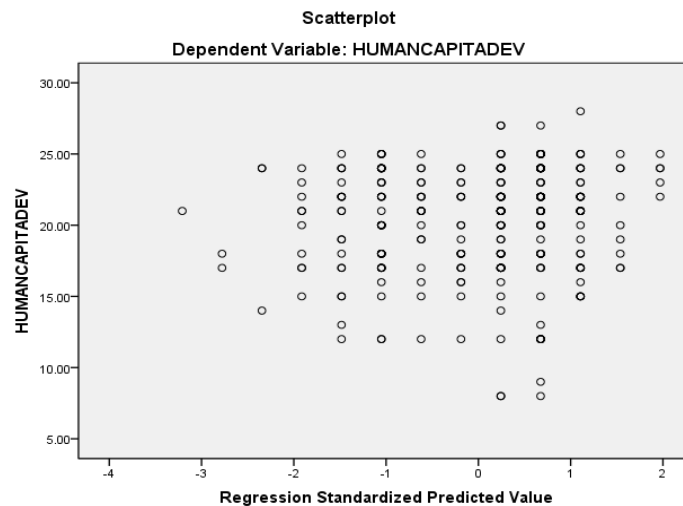
Source: SPSS output, 2019.

Figure 2. Normal P-P plot of regression standardized residual (TETFund on staff training)



Source: SPSS output, 2019.

Figure 3. Scattered plot of regression standardised residual (TETFund on staff training)



Source: SPSS output, 2019.

4.2. The second hypothesis testing

The independent variable in this hypothesis (H_2) is *TETFund interventions in sponsoring research*, while the dependent variable is *Human capital development*. Simple linear regression statistics were used to test this hypothesis at 0.05 alpha level and the result is presented in Table 5.

The result of analysis as presented in Table 5 with a graphical illustration of data in Figures 4, 5, and 6 revealed an R-value of 0.118. The correlation coefficient is a standardized measure of an observed degree of relationship between the variables under study, it is a commonly used measure of the size of an effect, and values of ± 0.1 represent a small effect, ± 0.3 is a medium effect, and ± 0.5 is a large effect.

Also, the R^2 value of 0.014 implies that 14% of total variance is accounted for by predictor variable (*TETFund intervention in research services*). Furthermore, the regression ANOVA revealed that the $F(1, 298) = 4.233$; $p < 0.05$, is significant. Thus, the null hypothesis (H_{02}) was rejected. This implies that there is a linear association (contribution) of the predictor variable (*TETFund intervention in research services*) to human capital development in Nigerian public universities. The adjusted R^2 (0.011) shows some shrinkage of the unadjusted value (0.014) indicating that the model could be generalized on the population. Based on the result, it was concluded that TETFund intervention in research services significantly contribute to human capital development in Nigerian public universities.

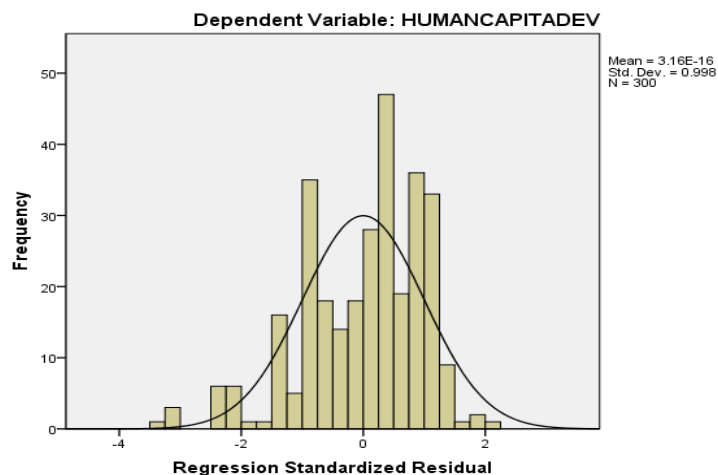
Table 5. Simple linear regression analysis of TETFund research services

Variables		Mean	Std. deviation
TETFund intervention in research services		15.8567	3.50291
Human capital development		20.3885	3.73727

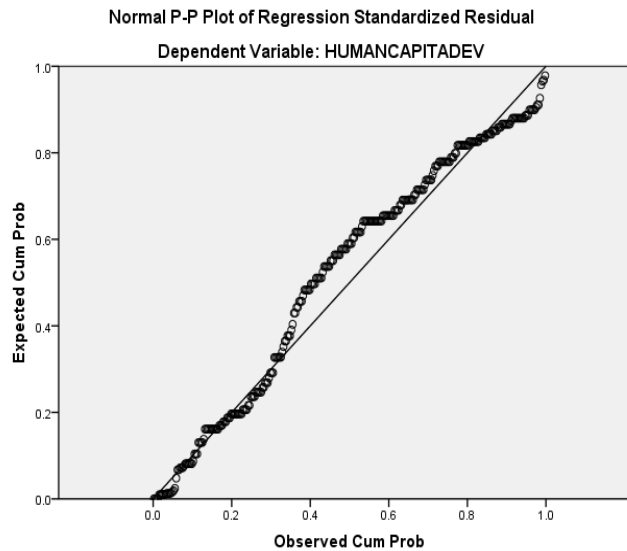
Model	Sum of squares	df	Mean square	F	R	R-square	Adjusted R-square	Sig.
1	Regression	57.832	1	57.832	4.233	0.118 ^a	0.014	0.011
	Residual	4071.314	298	13.662				
	Total	4129.147	299					

Source: SPSS output, 2019.

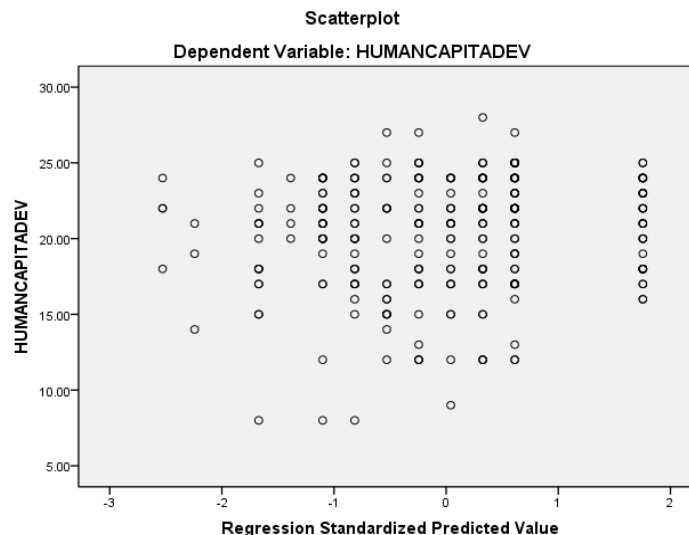
Figure 4. Simple linear regression graph of the impact of TETFund research services



Source: SPSS output, 2019.

Figure 5. Normal P-P plot of regression standardized residual

Source: SPSS output, 2019.

Figure 6. Scattered plot of regression standardised residual

Source: SPSS output, 2019.

4.3. The third hypothesis testing

The independent variable in this hypothesis (H_3) is *TETFund interventions in support services*, while the dependent variable is *Human capital development*. Simple linear regression statistics were used to test this hypothesis at 0.05 alpha level and the result is presented in Table 6.

The result of the analysis as presented in Table 6 with a graphical illustration of data in Figures 7, 8, and 9 revealed an R-value of 0.213. The correlation coefficient is a standardized measure of an observed degree of relationship between the variables under study, it is a commonly used measure of the size of an effect, and values of ± 0.1 represent a small effect, ± 0.3 is a medium effect, and ± 0.5 is a large effect. Also, the R^2 value of 0.045

implies that 45% of the total variance is accounted for by the predictor variable (*TETFund intervention in education support services*). Furthermore, the regression ANOVA revealed that the $F(1, 298) = 14.168$; $p < 0.05$, is significant. Thus, the null hypothesis (H_{03}) was rejected. This implies that there is a linear association (contribution) of the predictor variable (*TETFund intervention in education support services*) to human capital development in Nigerian public universities. The adjusted R^2 (0.042) shows some shrinkage of the unadjusted value (0.045) indicating that the model could be generalized on the population. Based on the result, it was concluded that TETFund intervention in education support services significantly contributes to human capital development in Nigerian public universities.

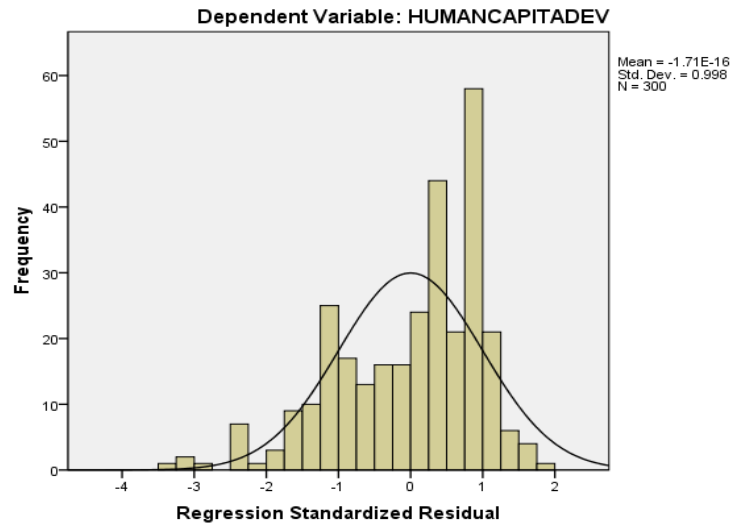
Table 6. Simple linear regression analysis of TETFund's contribution to education support services

Variables	Mean	Std. deviation
TETFund education support services	12.1533	3.55696
Human capital development	20.3885	3.73727

Model	Sum of squares	df	Mean square	F	R	R-square	Adjusted R-square	Sig.
1 Regression	187.404	1	187.404	14.168	0.213 ^a	0.045	0.042	0.000 ^a
Residual	3941.743	298	13.227					
Total	4129.147	299						

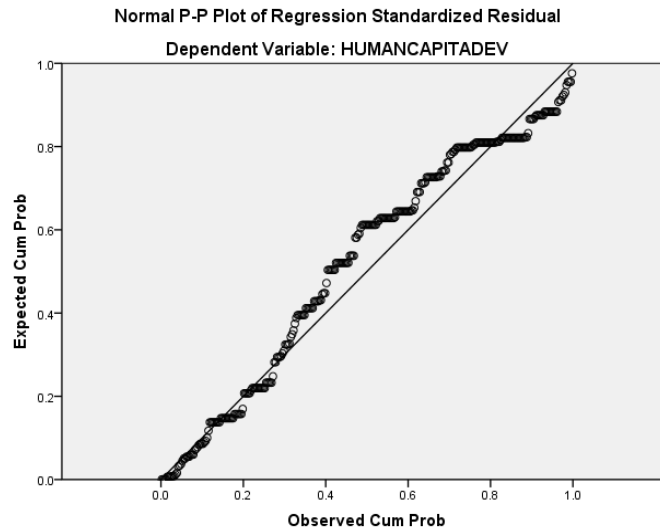
Source: SPSS output, 2019.

Figure 7. Simple linear regression graph of TETFund contribute to education support services



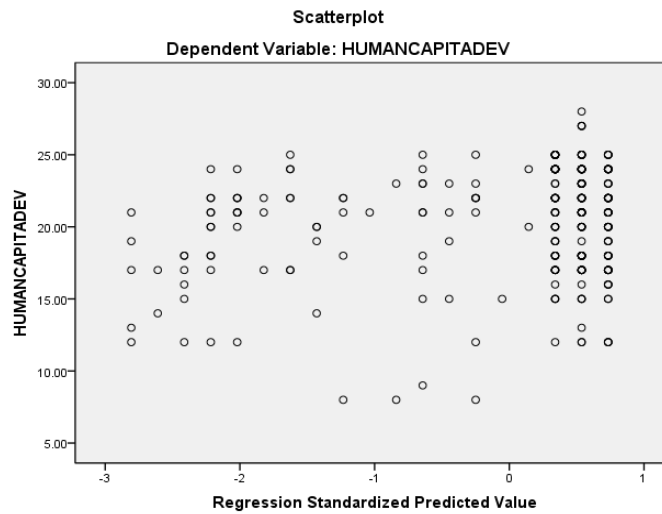
Source: SPSS output, 2019.

Figure 8. Normal P-P plot of regression standardized residual (TETFund education support services)



Source: SPSS output, 2019.

Figure 9. Scattered plot of regression standardised residual (TETFund education support services)



Source: SPSS output, 2019.

5. DISCUSSION

The test of hypotheses revealed the following findings:

1. TETFund intervention in staff training and development has significantly contributed to human capital development in Nigerian public universities.
2. TETFund intervention in research support has significantly contributed to human capital development in Nigerian public universities.
3. TETFund intervention in education support services has significantly contributed to human capital development in Nigerian public universities.

Staff training and development is one of the significant ways of developing the human resources of an organization to improve performance at individual, team (group), and organizational levels. As Onyebuchi (2018) acknowledges, human capital development enables the acquisition of new values, ideas, skills, confidence, and knowledge fundamental for organizational survival and

effectiveness, achieving organizational competitive advantage and sustainable development. Mooney and Brinkerhoff (2008) have equally observed that the training and development of the organizational workforce has become a top priority in building capacities for organizational success and sustainability in the face of competition.

It was in recognition of the important role of staff training and development in improving the performance of NPUs and fostering national development that TETFund introduced the TETFund Scholarship for Academic Staff (TEFSAS) programmes in 2008. A total of 215 public (federal and state) tertiary educational institutions are beneficiaries of TETFund intervention in the area of training and development of academic staff in foreign and Nigerian universities. For proper coordination of this mandate, TETFund created the Department of Academic Staff Training and Development in 2013. The table below shows the number of academic staff sponsored by TETFund for training and development.

Table 7. The number of academic staff sponsored by TETFund for training and development

S/N	Types of institutions	Foreign Ph.D.	Foreign masters	Foreign bench word	Local Ph.D.	Local masters	Total
1.	Universities	2,642	1,102	491	2,777	1,241	8254
2.	Polytechnics	728	1,150	57	1,992	3,062	6,989
3.	Colleges of education	531	688	47	3,678	4,198	9142
	Total	3,902	2,940	595	8,447	8,501	24,385

Source: Bogoro (2019, as cited in Ogundipe, 2021).

It is important to note that shortage of skilled manpower, declining performance of students in public tertiary educational institutions, establishments of new academic programmes, and the expansion of the educational sector in terms of size, student population, and structure are among the factors necessitating the investments in human resources as demonstrated through TETFund interventions in staff training and development. Human capital development is capital-intensive and demands complementary efforts from agencies like TETFund.

Similar to the findings of this study with regards to the positive contributions of TETFund to human capital development in terms of staff

training and development are such studies like Ezeali (2017), Nagbi and Micah (2019), Musa et al. (2023). For instance, Ezeali (2017) discovered that TETFund intervention in academic staff training and development is commendable as it has added value to Abia State University, Nnamdi Azikiwe University, Ebonyi State University, University of Nigeria, and Federal Polytechnic Nekede through improvement in staff skills and knowledge. Globally, the Human Capital Project (HCP) of the World Bank emphasises the need to invest more in people as a means of economic growth, achieving greater equity and development.

The second finding of the study revealed that TETFund intervention in research support has significantly contributed to human capital development in Nigerian public universities. TETFund makes provision for annual research grants to quality research proposals by academic staff. This research grant serves as a training ground for the production of quality research for industrial and national consumption. There is a strong linkage/synergy between research undertaking and human capital development. Through the research supported by TETFund grants, knowledge, skills, ideas, and values fundamental to building the human resource component of the nation are produced and disseminated. When research is carried out by research teams as is the case with TETFund-supported research in tertiary institutions, research assistants are engaged and trained. Thus, the human resource of the affected institution is trained and developed to contribute to problem-solving and nation-building. New research grounds like artificial intelligence are unfolding and there is a need to explore through research-sponsored projects how artificial intelligence can be deployed to enhance university governance and public management in a highly digitalised world. Agba, Agba, and Obeten (2023) in a recent study explored the synergy and supportive relationship between artificial intelligence and public management/governance in developed and developing market economies.

Research and human capital development are interrelated. Research is a veritable tool for the development of the human resources of organizations and the nation at large. According to Chikwe et al. (2015), an increase in research undertakings increases the ability of the country to harness its human capital for productive usage and national development.

As stated earlier and worth reiterating, the third finding of the study revealed that TETFund intervention in education support services has significantly boosted human capital development in Nigerian public universities. Education support services from TETFund have been in the form of construction of lecture halls, offices, laboratories, donation of books, and other library support services like donation of computer systems and projectors. This is similar to Adavbiele's (2016) findings, which show that TETFund has assisted in the provision of seats in lecture halls for students. As one of the respondents acknowledges, there is a need to expand TETFund intervention to cover more educational support services, especially in the area of provision of more laboratory equipment, accommodation for students, more offices for the expanding number of academic staff, and donation of current and relevant books.

In cultivating and sustaining university governance driven toward human capital development of the human resources of the country, we advocate that it be conducted in an atmosphere characterised by transparency, meritocracy, honesty, prudence, and pragmatism. Arguing in a similar manner, Agba, Agba, Ettah, et al. (2023) argue that building a new Nigeria where things work requires the institutionalisation of the principles of meritocracy, pragmatism, honesty, and foresighted leadership in the conduct of government business.

6. CONCLUSION

The conclusions from the findings of the study are the following: First, TETFund through its strategic interventions in the area of academic staff training and development; conference and workshop sponsorship; physical infrastructures in terms of lecture halls, offices, library support, ICT, education support services and research grants has justified its existence to boost human capital development in Nigerian public universities. Secondly, given the dynamic nature and environment in which public universities operate, there is a need for increased and expansive TETFund interventions. This conclusion of more funding to address the needs of public tertiary education institutions through TETFund interventions is supported or strengthened by the gaps created by the impact of the COVID-19 pandemic on the workplace of tertiary educational institutions in developing market economies. Thirdly, human capital development is capital intensive and demands prudent use of resources by beneficial institutions and staff. Finally, the study has demonstrated its originality and empirical and theoretical relevance by establishing the synergy between funding (as one of the drivers) and human capital development in NPUs. In the context of Nigeria, empirical research on human capital development and the performance of academic staff seem to have predominantly focused on salary enhancement without considering government interventions like TETFund to build human resource capacity in tertiary educational institutions. Theoretically, the study has contributed to knowledge by testing the applicability of the assumptions of the economic theory of human capital development which captures the need to effectively and efficiently invest in human capital to meet productive goals in a competitive national and global environment (Swanson, 2010). Smith (1976) significantly advocated the need to invest in human resources and skills to enhance the productive capacities of the workforce. While this study examined external agency support in human capital development in Nigerian public universities, it did not examine the internal contributions of each public university in developing its human capital. Thus, future research might consider this as a research opening to explore. In view of the high demand for telecommuting and remote working skills and ICT skills in Nigeria and beyond (Agba, Agba, Ettah, & Obera, 2022), TETFund might consider the need to build capacity of academic staff in the ICT domain.

This conclusion of more funding to address the needs of public tertiary education institutions (Agba & Agba, 2011) through TETFund interventions is supported or strengthened by the gaps created by the impact of the COVID-19 pandemic on the workplace of tertiary educational institutions in developing market economies.

The results of the study have implications for public policy, public accountability, intergovernmental relationships, human resource investment, and funding of the educational sector. There is a need to strengthen capacity in university governance and management.

The study is limited on the grounds that it focuses most on the university sector and excludes other educational outlets like the primary and secondary where the impact of TETFund interventions is needed and should be extended. Therefore, the findings and generalisations of the study are mostly applied in the university sector which is just a sector in the educational industry. The study is also limited from the perspective of methodology. Although the study adopted a mixed method — descriptive and quantitative approaches, it employed a small manageable sample size from a section of the six geopolitical zones of Nigeria. It is, however, assumed that the findings arising from the study will permit generalization with regard to university governance and human capital development via the interventions of TETFund.

From the findings, the following recommendations are made in the study: First, the partnership between TETFund and public universities in Nigeria should be sustained and expanded. This can be done through regular sensitization programmes and workshops involving TETFund, university management, and academic staff. By this, staff will be aware of key dates of the availability such interventions may likely be accessed. Second, access to TETFund interventions

in the area of human capital development should not be politicized. Selection of beneficiaries at TETFund and university levels should be objectively done to allow all qualified staff to benefit from the scheme. In other words, the processing of applications for TETFund research grants, academic staff training and development, conferences and book publication should be transparent and prudently administered. Sentiments and ethnic inclinations should be avoided. Third, TETFund interventions in the area of academic training and development; research sponsorship, conference sponsorships, educational support services, and physical infrastructure development should be expanded to cover more staff who wish to access such interventions. The dynamic nature of public universities characterized by increased staff strength, the population of students, and the emergence of new programmes demands matching expanded interventions through TETFund to address human capital needs. Finally, given the strategic role of TETFund interventions in human capital development, it is important that beneficiaries of such interventions in terms of funding should prudently utilise the funds given to them.

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