Original Research

Volume 3, Issue 2, pp 124-136, December 2021

ACHIEVERS JOURNAL OF SCIENTIFIC RESEARCH

Open Access Publications of Achievers University, Owo

Available Online at *www.achieversjournalofscience.org*

Institutional Supports and Research Output in University of Ibadan, Nigeria

I.A. Raji[1*] and A.A. Oyedeji[1]

[1]Department of Educational Management, University of Ibadan, Nigeria

*E-mail: ia.raji@mail1.ui.edu.ng

Submitted: October 20, 2021 Revised: December 1, 2021 Accepted: December 4, 2021 Published: December 13, 2021

ABSTRACT

This study investigated the contribution of Institutional Supports (ISs: Academic Mentoring – AS, Research Funding – RS and Research Infrastructure - RI) to Research Output (RO) in the University of Ibadan (UI), Nigeria. *Expost-facto* research design was adopted. The population comprised 1,484 Academic Staff (AS) in the University. Multistage sampling procedure was used to select 181 AS from four randomly selected faculties, while proportionate to size sampling technique was adopted for selecting 30% of AS from each faculty (Clinical Science-58, Arts-46, Education-40 and Science-65). Two self-developed instruments: Institutional Supports Questionnaire and Publication Checklist were used to collect data. Descriptive statistics and Pearson Product Moment Correlation were used to answer research questions while multiple regression analysis was employed in testing hypotheses. The RO level in UI was high, while Academic Mentoring (AM) is the most pattern ISs enjoyed by disciplines in UI. Positive significant relationships were found between AM (r = 0.308) and Research Funding-RF (r = 0.172). However, there is no significant relationship between research environment (r = 0.143) and RO. Academic discipline makes no significant impact on RO in the UI, Nigeria. The AM, RF and research environment jointly contributed to RO ($F_{(3, 159)}$ = 5. 897; Adj R^2 = 0.085; $p<0.05$). However, AM and RF made relative contribution to RO (β = 0.284; 0. 042; t = 3.537; 0.339; $p<0.05$). University management should place priority on institutional supports for enhanced research output.

KEYWORDS: Academic mentoring, Research infrastructure, Research funding, Research output, University of Ibadan

1. Introduction

Research output (quantity and quality of research publications) has been a global measure of recognition in the professional life of academics and determinant of ranks of Higher Education Institutions (HEIs). Quality of research publication (expressed through the h-index) is the measure of achievement and distinction among academics, while number of publications serves as proxy for productiveness. Hence, the justification for research output of lecturers in HEIs as the measure of their productivity in evaluations for promotions to higher career status and research grants. Thus, research output, which is considered as the whole of studies carried out by lecturers over a specified time frame, appears to be a primary source of delight for lecturers (academic staff) as they would prefer to spend more of their time on research.

Odia and Omofonmwan (2013) stated that a country's degree of growth is a responsibility of its research initiative and growth structure which is navigated by quality works of HEIs. Hence, Nigerian research would become only as excellent as the quality of universities in the country. Excellent research brings recognition to a university and enhances its ability to attract good (local and

international) students, outstanding faculty members and research grants, which in turn would support the overall academic mission and vision of the university. Research output in Nigeria HEIs are mostly works published as journal articles, monographs, abstracts, bibliographies, conference/workshop proceedings, indexes, textbooks, edited books, chapters in books and technical reports, standards and preprints (Zainab, 200; Edem and Atinmo, 2010).

Low research output has been reported in some Sub-Sahara African countries, particularly: Kenya, Kendagor, Kosgei, Tuitoek and Chelangat, (2014) and Nigeria (Karani, 1997; Okebukola and Solowu, 2001; Emunemu, 2009; Yusuf, 2012; Olatokunbo, 2013; Okonedo, 2015; Muia and Oringo, 2016). A slight low research output in Nigeria Universities was observed in 1980. Before then research output in Nigeria HEIs was at the top in Sub-Sahara Africa (Karani, 1997). The source observed also that, then, research efforts were supported and enhanced by good library facilities, availability of equipment, good research training and motivation. Okebukola and Solowu (2001) observed the sudden disappearance of the institutional supports and the consequent decline in research output.

University of Ibadan (UI), the first of its kind in Nigeria, was established in 1948 as a college of the University of London, and became a full university of 1962. The university's mission covers provision of excellent conditions for learning and research, production of graduates who are academically and morally sound, contribution through creativity and innovation to the transformation of society, and being dynamic custodian of statutory values that sustain the society's integrity. The university that had the main objective of producing manpower that would eventually take over administrative responsibilities and academic leadership in second and third generation institutions has the vision of being a world-class university for academic excellence geared towards meeting societal needs. In 2020 UI had 92 academic departments organised into 17 faculties. Excellence in research and publications made UI to deserve global respect and recognition in specific disciplines such as medicine, education, religious studies and history in the Sub-Sahara Africa from 1960s up to the mid-80s. However, quality of teaching, learning and research by UI has been adversely affected by civil war (1966 – 1970) and the brain drain syndrome that began in the late 1980s, culminating in policy and operational challenges. Thus, the recognition made by UI has been changing radically since the late 1980s due to poor research funding, dilapidated research infrastructure and inadequate academic mentoring.

Table 1: Position of UI in Nigeria, Africa and World Universities according to International Rankings

Year	Webometric			Times Higher Education (THE)		
	Nigeria	Africa	World	Nigeria	Africa	World
2016	1st	16th	1336	1st		601-800
2017				1st		801+
2018	1st		1099	1st		801-1000
2019	1st		1233	2nd		601-800
2020	1st		1322	2nd		501-600
2021	1st	18th	1196	1st		401-500

Sources: (i) Webometric Ranking of Universities (2016-2021)
(ii) Times Higher Education Ranking of Universities (2016-2021)

The Webometrics has consistently ranked UI the first university in between 2016 and 2021, the institutions 16th position in 2016 became 18th in Africa in 2021. The respective first, 16th and 1336th positions of UI in Nigeria, Africa and the world in the 2016/2017 Times Higher Education (THE) World University Rankings is an indication of the institution's in the 2018 Webometric ranking, UI was also ranked 1st in Nigeria and 905th in the world. The 2019 edition of the World Ranking of Nigerian universities confirmed that no other universities in

the country were qualified to be among the first one thousand in the world except UI that was ranked between 801-1000th position. The UI featured in the 2020 edition of the Times Higher Education's world university ranking as 1st in Nigeria, 440th in the world. In 2021 Webometrics ranking equally established that University of Ibadan emerged as 1st in Nigeria and rated 1,196th in the world. The dominant position of UI in the ranking of universities in the Nigeria, and the struggle for better enviable positions in Africa and the world has not shown significant result, especially in the Webometric ranking. This depicts that the university's efforts in research output has not translate to creditable performance at the international scene. It is against this backdrop that this study investigated the influence of institutional supports on research output in the University of Ibadan, Nigeria.

However, some challenges have constrained research output of academics in HEIs in Su-Sahara Africa and especially Nigeria. Okebukola (2002), Yusuf (2012) and Muia and Oringo (2016), though using different words, ascribed low research output of Nigeria universities to deteriorating research infrastructure/equipment and poor motivation (inadequate and irregular funding and grants). Okebukola (2002) and Yusuf (2012) added inadequate skills and shortage of personnel (due to brain drain syndrome), while Muia and Oringo (2016) opined that poor research management and inadequate dissemination and utilisation of research findings were also responsible. In addition, Okebukola (2002); and Bigirimana *et al.* (2016) observed that sometimes, academics carry huge teaching and administrative workloads, which may limit the time devoted to research and thereby affect research output adversely. On the contrary, Olatokunbo (2013) and Okonedo (2015) observed that research output in Nigeria was low because many academics in the country publish more of conference papers and articles in learned journals, while patent works of invention were very low**.** Whereas, attainment of high research output demands sound academic publications, and any academic staff who fails to publish in local and international outlets may tend to 'perish'.

In this era of globalization and modern technology, universities' research outputs are compared globally and the results translates to for ranking world universities. The researchers added that universities' ratings are based on the volume of teaching, population of students, community services and research which carries 30% of the performance criterion (Time Higher Education, 2013). Ranking Research output and publication have been used to mean the same thing in literature. Importance of publication to the life of academic staff stretched by Popoola (2008) and Bassey *et al.* (2007) include demonstration of academic scholarship and gaining of recognition for creative thinking. Publication also provides latest information for development and improvement of community. Thus, any study conducted without publication is of no use to policy makers, educational administrators and planners, and cannot contribute meaningfully to the development of any nation.

In view of the importance of publication to academic staff, universities and communities, the high level of research publication appears to be a direct function of institutional supports available to university. Institutional supports in this context refer to supports provided for academic staff by university management to enhance quality and quantity research. Institutional supports have been seen as components that have been linked with research output in Nigerian universities. In the views of Zainab (2001), institutional supports include adequate library resources, Information Technology and Communication (ICT) support, funding for equipment and material. Other factor identified is the declining ability of senior researchers to mentor junior ones due to brain drain and inability of academics to access research grants.

Imhonopi and Urim (2013) revealed that the influences of factors on scholarly research output of universities in South-western Nigeria are not absolute. While effects of desire for promotion, access to local/international research grants and

contribution to knowledge were positive, absence of funds, fear of non-acceptance/rejection of articles for publications, and unsatisfactory university policies on promotion had negative impacts. Sulo *et al.* (2012) found positive relationships between funding, time assigned for research, research environment and researchers' academic qualifications and research output in Nigerian universities.

Research grant/funding could enhance research output (Magoha, 2006; Egwunyenga, 2008; Cloete *et al.*, 2011; Muia and Oringo 2016). Irregular and inadequate research funding, and unfavourable conditions attached to research grants were two primary challenges hindering access research fund by academic staff of Nigerian universities (Akpan *et al.*, 2010). Badly, research grant is not given the priority it merits in Nigeria universities thereby making academics use their salaries to conduct research. Commensurate salaries could attract good researchers in the universities and also reduce the possibility of losing potential academic researcher to other jobs or universities in other countries (Pfeffer and Langton, 1993; Cloete *et al.*, 2011; Muia and Oringo, 2016). Donwa (2006) and Tafida *et al.* (2015) argued that the poor rating of research output in Nigerian HEIs can be greatly characterised by inadequate funding. This means that quality research output is determined by funded grant and salary of academic staff. The study affirmed that a relationship was found between research productivity and academic staff's salary. Okafor (2011) worked on comparative analysis of research output of Federal Universities in Southern Nigeria and revealed that there is no significant difference between mean productivity of academics from different universities. Getting research grant is expected to increase the reputation of the institution. Universities need to have adequate budget to procure research equipment and also fund research conducted by its faculty members, Iqbal (2011) as Lertputtarak (2008) opined that success of universities largely depends on their abilities to secure research funding.

Donwa (2006) reported that over 50% of research funding comes from industry. Belgium, Germany, Ireland, Sweden, Switzerland and the U.S.A. recorded industry funding of over 60%. Korea and Japan showed funding by industry of over 70%. For Nigeria, industry involvement in universities include endowment of professional chairs in certain disciplines, construction of office and hostel blocks and some donations of laboratory equipment. The researcher found out that government support accounts for over 98% of research funding in Nigerian universities, no industry support and the rest of the funding which is less than 20% comes from foreign agencies.

Obibuaku (2005) noted that research requires a lot of effort and a considerable deal of money, because conduct of research and for the purpose of the work being published in a reputable journal requires funds to accomplish the goal. Thus, universities require fund to support their day-to-day activities, most especially remuneration of staff through direct research funding. Also, adequate funding of the system for research is necessary for up to date provision for libraries; stocking laboratories with equipment; salaries and staff allowances; funding for internet connectivity; and facilitation of seminars and workshops. Research funding in Nigerian universities comes mainly from donors and foreign development agencies.

Hameed and Amjad (2009) has seen components of research environment (uninterrupted supply of electricity, functional well-equipped laboratories, libraries, lecture theatres and audio-visual aids) as factors that may influence research output. These scholars added that conducive physical environment with office and building boost the morale of academic staff and will ultimately improve their research output. Components of research environment that were found necessary for effective research work were: electricity – Akpama *et al.* (2008) and internet facility (Okafor *et al.*, 2011). Universities that provide all these institutional supports are likely to have high research output (Nzoka, 2015).

The research output of HEIs, especially universities, is expected to meet international standards for such institutions to earn global recognition. Academic

staff may have low research output in situations that institutional supports (research funding, academic mentoring and conducive research environment) are not available. The implication is that carrier progression of academic staff may be retarded, while the institution may not be able to attract good students both at local and international scenes. High research output brings recognition, academic reputation, and attracts global attention and funding to the university. Paucity of literature on the association between institutional support and research output in University of Ibadan, Nigeria makes this study to be relevant.

Research Questions

1. What is the pattern of institutional supports of the disciplines in the University of Ibadan, Nigeria?
2. What is the pattern of research output of the disciplines in University of Ibadan between 2015/2016 and 2019/2020 academic sessions?
3. What is the relationship between institutional supports and research output in the University of Ibadan, Nigeria?

Research Hypotheses

Ho_1: Institutional supports have no significant relative contributions to research output in University of Ibadan

Ho_2: Institutional supports (academic mentoring, research funding and research environment) do not make significant contribution to research output in the University of Ibadan, Nigeria.

Ho_3: Academic disciplines make no significant impact on research output in the University of Ibadan, Nigeria.

2. Methodology

The expost-facto research design was adopted for this study. The population comprised 1,484 academic staff in the 16 faculties in the University of Ibadan, Nigeria. Multistage sampling procedure was used to collect data. Four faculties (Clinical Science, Arts, Education and Science) that had the largest number of academic staff were purposively selected. These sampled faculties were Clinical Science-199, Arts-152, Education-134 and Science-215. Proportionate technique was used to select 181 (i.e. 30% of) academic staff from each faculty. Two instruments: Institutional Supports Questionnaire (ISQ) and Publication Checklist (PC) were developed and used to collect data. The ISQ had part A and B, part A comprised personal data such as faculty, gender, age, highest educational qualification and teaching experience while part B focused institutional support scale with three sub-scales. Academic mentoring had 5 items and research funding had 6 items with same Likert scale of VH- Very High (4), H- High (3), L- Low (2), and VL- Very Low (1), while research environment had 5 items with Likert scale of VG- Very Good (4), G-good (3), F- Fair (2), and P- Poor (1). The PC had 12 items with interval rating scale of Nil, 1-5, 6.10, 11-15 and above 15. The Cronbach's coefficients of 0.75, 0.73 and 0.77 obtained were considered adequate for the internal consistency of academic mentoring, research funding and research environment scales respectively. Research questions 1 and 2 were answered using descriptive statistics, while research question 3 was answered using Pearson product moment correlation. All hypotheses were tested using Pearson Product Moment Correlation and multiple linear regression at 0.05 level of significance.

3 Results

Research Question I: What is the pattern of institutional supports for research in University of Ibadan, Nigeria?

The average values of the items in the institutional support factors, Tables 2(a-c), were evaluated against a threshold of 2.5. All listed items of academic mentoring were high in the University. Table 2a shows that the university has a good culture of academic mentoring as items were rated between 3.14-3.37. Guiding mentees to draw proposal drafts (3.37) had the highest score and was followed by mentoring junior ones for research publication (3.28), co-author research with my mentee (3.24), guiding my mentees in drawing grant research proposals (3.19) and Academic

mentoring as a research culture in the university (3.14).

Table 2a: Pattern of Institutional Supports (Academic Mentoring)

Items	VH	H	L	VL	$(\overline{x})$	SD
Senior academics mentoring junior ones for research publication	81 (50.6)	54 (33.8)	11 (6.9)	13 (8.1)	3.28	0.91
Practice of academic mentoring as a research culture in the university	48 (30.0)	91 (56.9)	16 (10.0)	5 (3.1)	3.14	0.71
Co-authorship of research with my mentees	64 (40.0)	78 (48.8)	10 (6.3)	8 (5.0)	3.24	0.78
Developing proposal draft through the guide of mentor	78 (48.8)	69 (43.1)	7 (4.4)	6 (3.8)	3.37	0.74
Guiding mentee in developing grant research proposals	60 (37.5)	82 (51.3)	7 (4.4)	11 (6.9)	3.19	0.81
Weighted Average			**3.24**			

Adopting the 2.5 threshold, research funding was perceived to be low in the University of Ibadan. Organisations and agencies (2.46), philanthropists (2.44), the University (2.39) and personal sources (2.37) were perceived as contributing more fund to research than government sources (2.31), Table 2b. The finding of this study contradicts Donwa (2006) which revealed that government support accounted for over 98% of research funding in Nigerian universities, using existing institutional records. The difference in the findings are due mostly to the forms of data used.

Table 2b: Pattern of Institutional Supports (Research Funding)

Items	VH	H	L	VL	$(\overline{x})$	SD
Philanthropists	8 (5.0)	96 (60.0)	14 (8.8)	42 (26.3)	2.44	0.94
Nigerian government(s)	7 (4.4)	87 (54.4)	14 (8.8)	52 (32.5)	2.31	0.98
Organizations/agencies	7 (4.4)	96 (60.0)	20 (12.5)	37 (23.1)	2.46	0.90
The university	9 (5.6)	89 (55.6)	17 (10.6)	45 (28.1)	2.39	0.96
Personal sources	7 (4.4)	94 (58.8)	10 (6.3)	49 (30.6)	2.37	0.97
Family and friends	4 (2.5)	81 (50.6)	20 (12.5)	55 (34.4)	2.21	0.95
Weighted Average			**2.36**			

Components of research environment were not good enough, as all items were rated fair. Access to electricity supply (2.34) was rated worst, followed by laboratory (2.41) and internet facilities, while library facilities (2.45) had the best score, Table 2c. Going by the observations, of Akpama *et al.* (2008), and Okafor *et al.* (2011), that research environment factors especially electricity and internet facilities are necessary for effective research output and the findings of this study, quality research could only be realistic in the university if researchers find alternative resources to complement institutional provisions.

Table 2c: Pattern of Institutional Supports (Research Environment)

Access to/Availability of	**VG**	**G**	**Fair**	**Poor**	**($\overline{X}$)**	**SD**
Computer	43 (26.9)	25 (15.6)	51 (31.9)	41 (25.6)	2.43	1.14
Internet facility	36 (22.5)	45 (28.1)	28 (17.5)	51 (31.9)	2.41	1.15
Library facilities	35 (21.9)	44 (27.5)	39 (24.4)	42 (26.3)	2.45	1.08
Laboratory	34 (21.3)	41 (25.6)	42 (26.3)	43 (26.9)	2.41	1.10
Electricity supply	31 (19.4)	39 (24.4)	43 (26.9)	47 (29.4)	2.34	1.09
Weighted Average			**2.41**			

Research Question 2: What is the pattern of research output of the disciplines in University of Ibadan between 2015/2016 and 2019/2020 academic sessions?

Table 3: Research Output in University of Ibadan between 2015/2016 and 2019/2020 academic sessions

S/N	Research and publication	Nil Very Low	1-5 Low	6-10 Average	11-15 High	Above 15 Very High	Average Number per Respondent
1	Research Undertaken	25 15.6%	22 13.8%	47 29.4%	60 41.3%	6 3.8%	8.31
2	Textbooks	15 9.4%	11 6.9%	92 57.5%	42 26.3%	-------	8.22
3	Chapters in Book	14 8.8%	16 10.0%	75 46.9%	49 30.6%	6 3.8%	8.71
4	Co-authored textbooks	17 10.6%	23 14.4%	71 44.4%	46 28.8%	3 1.9%	8.06
5	Articles in local Journals	17 10.6%	20 12.5%	65 40.6%	53 33.1%	5 3.1%	8.49
6	Articles in offshore Journals	27 16.9%	20 12.5%	84 52.5%	18 11.3%	11 6.9%	7.28
7		52 32.5%	40 25.0%	58 36.3%	1 0.6%	9 5.6%	4.74
8	Monographs	36 22.5%	33 20.6%	81 50.6%	2 1.3%	8 5.0%	5.73
9	Occasional papers	34 21.3%	20 12.5%	90 56.3%	2 1.3%	14 8.8%	6.61
10	Technical Reports	30 18.8%	17 10.6%	94 58.8%	1 0.6%	18 11.3%	7.13
11	Scientific peer reviewed bulletin	19 11.9%	14 8.8%	76 47.5%	41 25.6%	10 6.3%	8.52
12	Conference proceedings	10 6.3%	39 24.4%	51 31.9%	51 31.9%	9 3.6%	8.44

Table 3 indicates the responses of academic staff to their research output level within five academic sessions (2015/2016 - 2019/2020). Majority of academic staff who participated in the study had more than 6 publications within five years. The result also showed that some of the respondents did not indicate their publications within the five years. The table equally shows average numbers of the publications by the academic staff of University of Ibadan. The average value for each item is obtained as follows; research undertaken (8); textbooks (8); chapters in book (9), co-authored textbooks (8), articles in learned journals (8); scientific peer reviewed bulletin (9); and conference proceedings (8); articles in offshore journals (7); technical reports (7); occasional papers (7); monographs (6) and patent and certified invention (5). All these indicate that research output in the area of publication of academic staff is relatively high in general. However, academic staff concentrate more on chapters in book and scientific peer reviewed bulletin. Figure 1 presents this information in a bar chart.

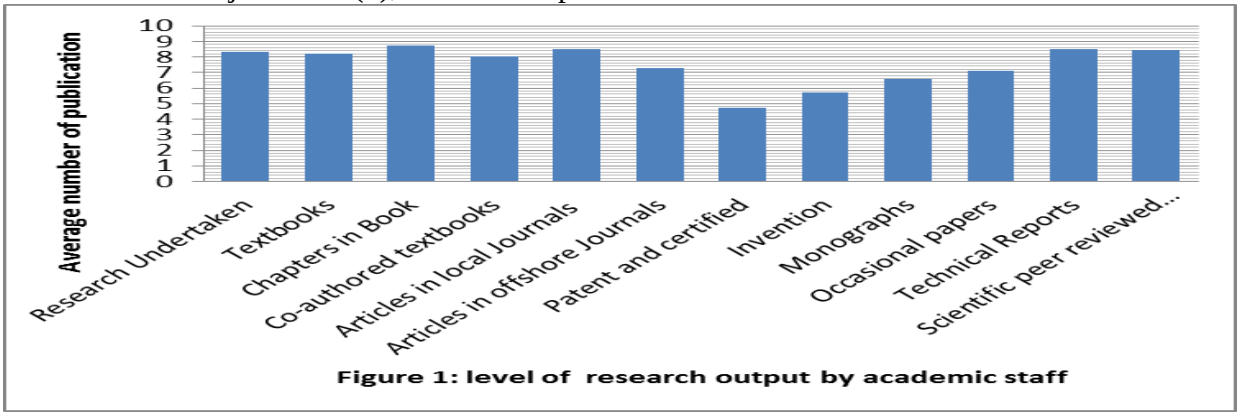

Figure 1: level of research output by academic staff

This finding is in line with those of Olatokunbo (2013) and Okonedo (2015) who confirmed that most lecturers publish more of articles in conference papers and learned journals while patent work of invention which is part of research productivity is highly low**.** Many lecturers however characterised by the low level of bibliography, patent work and prints in book reviewed to lack of funds, stress recorded because of slow internet connectivity and excess workload. This is however, contrary to finding of Emunemu (2009) who actually reveals that quality research output being carried out by Nigerian universities is of low standard. The result also negates the finding of Kendagor *et al.* (2014) who found low level of research output.

Research Question 3: What is the relationship between institutional supports and research output in the University of Ibadan?

Table 3: **Relationship between Institutional Supports and Research Output**

Variables	Research Output	Mentoring	Research Funding	Research Environment
Research Output	1			
Academic Mentoring	0.308*	1		
	0.000			
Research Funding	0.172*	0.321*	1	
	0.030	0.000		
Research	0.143	0.212*	0.778*	1
Environment	0.072	0.007	0.000	

Table 3 is the correlation matrix between independent variables (academic mentoring, research funding and research environment) and dependent variable (research output). The study reveals significant positive but low relationship among academic mentoring ($r = 0.308$; $P < .05$), research funding ($r = 0.172$; $P < .05$) and research output. However, there is no significant relationship between research environment ($r = 0.143$; $P > .05$) and research output.

Analysis also shows that research funding had correlation with academic mentoring ($r= 0.321$; $P < .05$) while high significant and positive relationship exist between research environment and academic mentoring ($r= 0.212$; $P < .05$). However, research environment had negative and high insignificant relationship with research funding ($r =- 0.852$; $P > .05$). The finding of the study is in line with results of Imhonopi and Urim (2013) which showed that there were positive and negative factors that affected research output. The positive factors comprised desire for promotion, access to local/international research grants and contribution to knowledge while negative factors included fear of refusal for publications articles, lack of funds and unfriendly university policies on promotion.

Hypotheses

Ho_1: Institutional supports have no significant relative contributions to research output in University of Ibadan

Table 4: Relative Contribution of Institutional Supports to Research Output

Model	Under standardized Coefficients	Standardized Coefficient		T	Sig.
	Beta	Std. Error	Beta (β)		
(Constant)	8.001	1.546		5.177	0.000
Academic Mentoring	0.336	0.095	0.284	3.537	0.001
Research Funding	0.027	0.079	0.042	0.339	0.003
Research Environment	0.031	0.077	0.050	0.409	0.683

Table 4 indicates the contribution of each of the independent variables two of which had significant contribution ($p<0.05$). Academic mentoring and research funding had significant relative contribution to research output ($\beta = 0.284$; 0. 042; $t = 3.537$; 0.339; $p<0.05$). However, research environment made no significant relative contribution to research output ($\beta =-0.050$; $t = 0.409$ $p>0.05$). It can be concluded that academic mentoring and research funding made significant contribution to research output. The finding of this

study agrees with that of Sulo *et al.* (2012) which found that researcher's qualification, funding, and research environment significantly and positively contributed to research output.

Ho_2: There is no significant joint contribution of institutional supports (academic mentoring, research funding and research environment) to research output in University of Ibadan.

Table 5: Joint Contribution of Institutional Supports to Research Output

Sources of Variance	Sum of Squares	Df	Mean Square	F	Significant
Regression	139.565	3	46.522	5.897	0.001*
Residual	1230.628	156	7.889		
Total	1370.194	159			
R = 0.319					
R Square = 0.102					
Adjusted R Square = 0.085					
Std. Error of the Estimate = 2.809					

a. Dependent Variable: research output
b. Predictors: (Constant), Research Environment, mentoring, research funding

Table 5 shows that all the predictor variables (mentoring, research funding and research environment) entered into the regression model at once, there was a significant contribution to research output in University of Ibadan ($F_{(3, 159)} = 5.897$; Adj $R^2 = 0.085$; $p<0.05$). This implies that when mentoring, research funding and research environment were taken together, they jointly contributed to research output in the University of Ibadan.

The result equally found that institutional supports (mentoring, research funding and research environment) accounted for 10.2% of the variance in research output. The remaining 89.8% may be due to other components that are not included in the model. Based on this analysis, mentoring, research funding and research environment jointly contributed to research output in the University of Ibadan. The finding is in agreement with the result of Okafor, David and Ugochukwu (2011) which indicated that internet services had significant contribution to the increase in teaching and research outputs of academic staff and was potential contributor for improving the teaching and research output.

Ho_3: Academic discipline makes no significant impact on research output in the University of Ibadan, Nigeria.

Table 6: Analysis of Variance of Research Output by Academic Discipline

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	31.674	3	10.558	.159	.924
Within Groups	10385.101	156	66.571		
Total	10416.775	159			

*= significant at $p<0.05$

Table 6 indicates that there is a significant difference in research output by academic discipline (faculty) in the university of Ibadan [$F_{(3,156)} = 0.159$; $p > 0.05$]. Based on this analysis, the null hypothesis which stated that academic discipline makes no significant impact on research output in the University of Ibadan, Nigeria was therefore retained. Based on this analysis, academic discipline makes no significant impact on research output in the University of Ibadan, Nigeria. The finding of this study is in line with finding of Okafor (2011) who worked on comparative analysis of research output of Federal Universities in Southern Nigeria and found that there is no significant difference between mean productivity of academics from different universities.

Conclusions and Recommendations

This study concluded that institutional supports is a prerequisite for improving research output in Higher Education Institutions, specifically, Nigerian universities. The study also concluded that that there is direct relationship between institutional support and research output. This implies that more commitment of institutional supports by stakeholders in Nigeria universities will bring about high level of research output. The study equally concluded that academic mentoring is the most institutional supports enjoyed by faculties in HEIs. Based on the findings, research output should continue to be improved upon by academic staff since it is only way they can be promoted to the highest pick of their academic career. It was also recommended that university management should place priority on institutional supports that will enhance research output.

References

Adesina, W. (2020). Times Higher Education World University Rankings 2021, vanguardngr.com

Akpan, C. P., Archibong, I. A. and Undie, J. A. (2010). Lecturers' access to research fund in Nigerian universities: challenges and strategies for improvement. ttps://www.researchgate.net/publication/338801365:35-45

Bako, S. (2005). Universities, research and development in Nigeria: Time for a paradigmatic shift. Paper prepared for 11th General Assembly of CODESRIA on Rethinking African Development: Beyond impasse: Towards Alternatives. Maputo, Mozambique.

Bassey, U., Akuegwu, B., Udida, L., and Udey, F. U. (2007). 'Academic staff research productivity: A study of Universities in South-South Zone of Nigeria. *Educational Research and Review* 2(5): 103-108

Bigirimana, S., Sibanda, E. N. and Masengu, R. (2016). The Impact of Working Conditions on Academic Staff Turnover at Africa University, Mutare, Zimbabwe. *Asian Journal of Social Sciences and Management Studies* 3(2): 91-98

Donwa, P.A. (2006). Funding of Academic Research in Nigerian Universities. UNESCO Forum on Higher Education Research and Knowledge. Presented at the Second International Colloquium on Research and Higher Education Policy

Edem, U. S. and Atinmo, M. I. (2010). The influence of age and work experience on publication output of Among Librarians in Nigerian universities. *Annals of library and information science studies* 42:142-151

Emunemu, B. O. (2009). The Challenges of conducting educational research in Colleges of Education. In A. O. Ajayi (Ed). Institutionalization of research and development, Ibadan: Outprints.

Hameed, A. and Amjad, S. (2009). "Impact of Office Design on Employees' Productivity: A Case study of Banking Organizations of Abbottabad, Pakistan." *Journal of Public*

Affairs, Administration and Management 3(1): 1-13

Lertputtarak, S. (2008). An Investigation of Factors Related to Research Productivity in a Public University in Thailand. Unpublished Ph.D. Theses, Faculty of Arts, Education and Human Development, Victoria University, Melbourne, Australia.

Magoha, A. (2006). 36th.Graduation Ceremony of the University of Nairobi. Speech delivered by the Vice-Chanceller.http://www.uonbi.ac.ke/node/63,P3-P4

Muia, A.M. and Oringo, J.O. (2016). Constraints on Research Productivity in Kenyan Universities: Case Study of University of Nairobi, Kenya. International Journal of Recent Advances in Multidisciplinary Research 03(08):1785-1794

Nzoka, J. M. (2015). Institutional Factors Influencing Lecturers' Productivity at Kenya Methodist University. Unpublished master dissertation, Department of Educational Administration and Planning, University of Nairobi, Kenya

Iqbal, M. Z. and Mahmood, A. (2011). Factors related to low research productivity at higher education level. *Asian Social Science* 7(2):188-193

Karani, F. (1997). Higher Education in Africa in the 21st Century. Paper presented at the Africa Regional Consultation Preparatory to the World Conference on Higher Education, Dakar, Senegal

Kendagor, R., Kosgei, D., Tuitoek D. and Chelangat S. (2014). Factors affecting research productivity in public universities of Kenya: The case of Moi University. *Journal of Emerging Trends in Economics and Management Sciences* 3(5):475-484

Obibuaku, L. (2005). Nigeria's top 20 research universities emerge: A comment. Retrieved from file http://www.gamji.com

Odia, O. L. and Omofonmwan, S. I. (2013). Research and development initiatives in Nigeria: Challenges and prospects. *Mediterranean Journal of Social Sciences, 4 (2):* 257 – 265.

Okafor, V. N. (2011). Comparative Analysis of Research Output of Federal Universities in Southern Nigeria. Library Philosophy and Practice (e-journal). Paper 498.

Okebukola, P. (2002). The state of university education in Nigeria. Abuja: National Universities Commission.

Okebukola, P. and Solowu, O.M. (2001). Survey of university education in Nigeria. *Journal of Curriculum Studies,* 223 (2)

Oladimeji, R.2018.https://punchng.com/ui.ranked-nigerias-best-abuad-tops-private-varsties

Olatokunbo, C. O. (2013). Research Productivity of Teaching Faculty Members in Nigerian Federal Universities: An investigative study, Chinese Librarianship: *an International Electronic Journal, 36:99-118*

Okonedo, S. (2015). Research and Publication Productivity of Librarians in Public Universities in the South-West, Nigeria. Library Philosophy and Practice (e-journal). Paper 1297. http://www. digitalcommons.unl.edu/libphilprac/1297

Popoola, S. O. (2008). The use of information sources and services and its effect on the research
output of social scientists in Nigerian Universities. Library Philosophy and practice. Retrieved 10-8-2009. From http://www.webpages.uidaho.edu/%78Emboli n/lpp2008.htm.

Pfeffer, J. (1993). Barriers to the advance of organisational science: Paradigm development as a dependent variable. Academy of Management Review, 18, 599-620.

Sulo, T., Kendagor, R., Kosgei, D., Tuitoek, D, and Chelangat, S. (2012). Factors affecting research productivity in public universities of Kenya: The case of Moi University. *Journal of Emerging Trends in Economics and Management Sciences*, 3(5): 475-484

Ukpong, C.2019. Nigeria: Three Nigerian Universities Ranked Among World's Best. Premium Times www.nigeriabullentin.com/threads/only-one-nigerian-university-ranked-among-world's-top-800- universities.125290/

Tafida, A., Kasim, U., and Chima, P. (2015). Analysis of Factors Enhancing Pitfall in Research and Teaching of the Nigerian University System, *International Journal of Higher Education, 4(3):82-89*

Zainab, A. N. (2001). Personal, academic and departmental correlates of research productivity: a review of literature. *Malaysian Journal of Library and Information Science* 4(2): 73-110.