

Research Productivity of Teaching Faculty Members in Nigerian Federal Universities: An Investigative Study

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ABSTRACT: This study assessed the level of research productivity of teaching faculty members in Nigerian federal universities. The findings of the study show that the research productivity of the teaching faculty members in Nigerian federal universities is high in journal publications, technical reports, conference papers, working papers, and occasional papers. The research productivity is higher in Northeast ($M=22.53$; $SD=25.73$), and Southwest ($M=21.74$; $SD=87.28$), and North Central ($M=20.69$; $SD=31.24$) Nigeria. Also, the mean score of information resources availability ($M=2.41$; $SD=0.90$) indicates that information resources are readily available to teaching faculty members in Nigerian federal universities. The barriers to research productivity by teaching faculty members in the universities include low Internet bandwidth ($M=3.793$; $SD=1.162$) and financial constraint ($M=3.543$; $SD=1.257$). Besides, the study has shown the strengths and weaknesses of the teaching faculty members in Nigerian universities in terms of their research output.

I. Introduction

Research plays a critical role in promoting the prosperity of a nation and the well-being of its citizens. Universities, through research, make important contributions to the growth and development of industries and government businesses, thereby promoting national and global development. Nigerian higher education began with the establishment of the Yaba Higher College by the colonial government in 1934. The University College Ibadan was established in 1948 and later metamorphosed into the University of Ibadan in 1962. Presently, there are one hundred and twenty-five universities in Nigeria. Of these, 37 are state-owned, 50 are private universities, and 38 are run by the federal government (National Universities Commission, Nigeria, 2012). Most of the research work in Nigeria occurs in universities. Indeed, research production has become essential for the success of universities and the prospects of promotion for academics (Bako, 2005; Aniedi and Effiom, 2011).

United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank, and the Association of African Universities (AAU) have all highlighted the important role of universities in research. Perhaps, the most relevant study on this matter is from Mosha (1986), who identified three principal roles for the African universities: 1) the promotion of learning and

the pursuit of truth; 2) preparation for service, including training for problem solving; and 3) the fostering of (applied) research and consulting.

Universities across the world are considered as producers of new knowledge. Universities are considered as modern entrepreneurial engines and generators of knowledge through research. Hence, the role of academics is not limited to teaching.

At the center of intellectual and scholarly research are academics interested in the creation, dissemination, or preservation of knowledge. Academics are lecturers ranging from graduate assistant cadre to professorial cadre in the context of Nigerian universities (Okebukola, 2002).

McCabe and McCabe (2000) noted that academic staff members in any higher institution, especially universities, are provided the opportunity to focus on an area of inquiry, develop a research program and later share the knowledge with students and others in the drive to develop professional skills and impact on a field and society, as a whole. Research provides a good platform for teaching faculty members to become successful academics. This is because research develops academic knowledge and reinforces the skills needed for effective knowledge transfer. It also inspires academics towards hard work, fills the gaps of previous researches, and creates an opportunity for future research.

Most of the research productivity of academics is disseminated via publications. Research publications enable academics to earn recognition in academic circles locally and internationally. In higher education, research productivity often served as a major role in attaining success in academic circles as it is related to promotion, tenure, and salary (Bloedel, 2001; Kotrlik, Bartlett, Higgins, and Williams, 2002; Bassey, Akuegwu, Udida, and Udey, 2007).

It is generally accepted that research plays a critical role in promoting the prosperity of a nation and the well-being of its citizens in this knowledge-based era (Abbott and Doucouliagos, 2004). Creswell (2008) reported that research not only aids solving practical problems and brings about material improvements, but it also provides insight into new ideas that improve human understanding of various social, economic and cultural phenomena. Research has always been the main approach to solving problems by all categories of professionals right from the ancient times (Boaduo and Babitseng, 2007).

According to Rashid (2001), research is a conscious effort to collect, verify, and analyze information. Research can be understood as having two broad components, namely, knowledge creation and knowledge distribution.

Ochai and Nedosa (1998) asserted that the fruits of research are new knowledge and facts, which are communicated to the academic community through scholarly publications and seminars.

In universities, recognition and advancement of individual academic staff members depend largely on the quantity and quality of their research productions, which are communicated in form of journal articles, books, technical reports, and other types of publications (Bassey, Akuegwu, Udida, and Udey, 2007; Kusure, Mutanda, Mawere, and Dhliwayo, 2006; Torchich, 2006; Vakkari, 2008).

The current study focused on the research productivity of teaching faculty members of Nigerian federal universities in the six geo-political zones. Related faculties were grouped together with the assumption that they exist in all selected universities. Therefore, four faculties were used from each of the selected universities, namely, Faculty of Social Science, Faculty of Science, Faculty of Education, and Faculty of Arts/Humanities.

II. Objectives of the Study

The objectives of the current study are as follows:

- To find out the level of research productivity of the teaching faculty members in Nigerian federal universities
- To examine the socio-demographic characteristics (such as designation, highest educational qualification, and experience) of teaching faculty members
- To determine the inhibitors to teaching faculty members on research activities

III. Literature Review

Research productivity in Nigerian universities cannot be studied in isolation. One of the strategies for determining research productivity is to assess the quantity of publications which researchers communicated through primary or other sources. Research productivity and research activity are interrelated. Research involves collecting and analyzing data. Productivity results from writing, reading, and publishing research reports in professional refereed journals, and displaying it on the web, or to making it known to the public through any other means.

According to Creswell (1986),

Research productivity is the extent to which lecturers engage in their own research and publish scientific articles in refereed journals, conference proceedings, writing a book or a chapter, gathering and analyzing original evidence, working with postgraduate students on dissertations and class projects, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing monographs, developing experimental designs, producing works of an artistic or a creative nature, engaging in public debates and commentaries.

Academic staff members conduct research and their productivity is measured in various ways. Academic institutions primarily measure research productivity based on published works, externally funded grants, and the number of citations the published works received (Middaugh, 2001). The most common productivity measures look at publications that are submitted, accepted (in press), or published. The published works could be journal articles (refereed and non-refereed), books (including edited books and textbooks), book chapters, monographs, conference papers, and research proposals written to receive external and internal grants (Middaugh, 2001).

Uzun (2002) observed a sharp decline in the research productivity of academics in terms of the number of articles published in Nigeria from 1980 to 1999 in an analysis of 21 cores Nigerian LIS journals indexed in the Social Science Citation Index database.

Aina and Mabawonku (1998) observed that Nigeria had the highest proportion of rejection in Africa out of the papers submitted to the *African Journal of Library, Archives and Information Science* (AJLAIS) for publication.

While reporting on research productivity in developing countries, Arunachalam (1992), as cited by Nwagwu (2007), opined that South Africa and Nigeria were the only two African countries whose scholarly works had dominated the developing countries with a 13% contribution to the publishing of 140,000 periodical titles listed in *Ulrich's Periodicals Directory*.

A few studies have been conducted on the research productivity of academic staff members in Nigeria. Nwagwu (2006) carried out a bibliometric and documentation analysis of biomedical articles by Nigerian authors published between 1967 and 2002, using Lotka's law. He averred that only the co-author category differs from the inverse power of the law while the other categories do not.

In the same vein, Chiemeké, Longe, Longe, and Shaib (2009) conducted an empirical study on the research output from Nigerian tertiary institutions and found that publication remained a yardstick for promotion in the academia in Nigeria.

Braimoh (1999) reviewed the role of African universities in national and continental developments. He emphasized upon the significance of research and publication efforts among university lecturers in improving their teaching and demonstrating their abilities to create and disseminate knowledge to solve societal problems.

Agboola and Oduwolé (2005) investigated the publication output by Nigerian academic librarians. Their study sought information on the status of the librarians, publication requirements for promotion, frequency of staff seminars, role of seminar secretaries, categories of staff involvement, order of paper presentations, and comments on the role of staff seminars in enhancing staff publication output. They claimed that out of the 34 academics in their subject area (Library Science) in Nigeria that had responded, 2.94% had more than twenty publications, 8.82% had between ten and fifteen publications, 17.56% had between six and nine, 58.82% had between one and five publications whilst 11.77% had no publications. Their findings are in line with those of Ramsden (1994) and Athey and Plotnicki (2000).

Most of the methods for measuring research productivity involve measuring the number of journal articles published. Research productivity has been mentioned in several studies relating to higher education. The most pervasive issue regarding the measurement of research productivity is the confusion of quantity of publications with quality of publications, either in the publications themselves or in the publication outlets (Lawrence & Green, 1980).

Print and Hattie (1997) highlighted the value of publications as the most direct measure of research performance. These include: articles in refereed journals, commercially published peer

reviewed books, major refereed conference presentations, papers in refereed conference proceedings, articles weighed by journal citation impact, competitive peer reviewed grants, postgraduate research degrees supervised to completion, and editor/editorial board of recognized journals.

Demographic variables have generally been associated with research productivity. Age has been studied in numerous works, with conflicting results. Many studies about productivity have indicated that the relationship between publication and age is not linear, although the overall rate of publication generally declines with age (Finkelstein, Seal & Schuster 1998; Teodorescu 2000).

According to Over (1982), research productivity of academics slightly decreased with age. Bland and Berquist (1997) also observed that the average productivity of academic members drops with age but many senior academics remains active and that there is no significant evidence that age determines a drop in productivity.

Teodorescu (2000) investigated faculty publication across 10 countries and discovered that age significantly influences research productivity in the United States.

In a study using a random sampling of 228 colleges and universities in the United States, Kotrlik et al. (2001) found that age does not significantly affect research productivity.

IV. Research Methodology

The study has adopted the descriptive survey design of correlation type. It establishes the relationship between socio-demographic characteristics and research productivity of academics in Nigerian federal universities. The population of this study consisted of academic staff working in all the federal universities in Nigeria.

A multi-stage sampling procedure was adopted. First, the universities were grouped into the existing six geo-political zones in Nigeria, namely, North West, North East, North Central, South South, South East, and South West.

Secondly, two universities were randomly selected from each of the six geo-political zones. The selection resulted in twelve universities. The population of the study was 10,573 as of 2012.

Third, a sampling frame of 10% of academics in each of the universities was selected, giving a total of 1,057, an equivalent of 10% of the legitimate population. In order to generate the 10% of the sample, an average of 10% of the academics in each of the universities selected were sampled, covering four faculties.

The instrument used to collect data for this study was a questionnaire. To ensure content validity and reliability of the instrument, the research instrument was validated using Cronbach's Alpha. The scales for research productivity of academic had alpha coefficient of ($r=0.91$). The data gathered were analyzed using descriptive and inferential statistics. The research questions were analyzed, using descriptive statistics, such as mean, standard deviations, and variance.

Table 1. Distribution of Questionnaire and Response Rate

University	Copies of Questionnaire			Response Rate
	Distributed	Returned	Usable	Percentage
Ahmadu Bello University (ABU)	112	99	93	88
Abubakar Tafawa Balewa (ATBU)	42	41	35	83
Nnamdi Azikwe University (NAU)	76	73	64	84
Usman Dan Fodio University (UDFU)	48	37	33	70
University of Benin (UNIBEN)	84	81	73	85
University of Ibadan (UI)	116	104	101	86
University of Ilorin (UNILORIN)	76	71	69	88
University of Jos (UNIJOS)	84	68	62	74
University of Lagos (UNILAG)	120	118	116	97
University of Maiduguri (UNIMAD)	87	79	70	82
University of Nigeria Nnsuka (UNN)	120	103	96	80
University of Portharcourt (UNIPOINT)	92	72	61	68
Total	1,057	946	873	83

Table 2. Ranks of Academic Staff Members

Rank	No. of Respondents	Percentage
Professor/Associate Professor	87	10
Senior Lecturer	228	26
Lecturer I	212	24.3
Lecturer II	213	24.4
Assistant Lecturer	101	11.6
Graduate Assistant	32	3.7
Total	873	100

V. Findings and Discussions

Research Question 1: What is the level of research productivity of the academic staff?

In order to determine the level of research productivity of the respondents within a 3-year period (2007-2010), an average score of their productivity was computed. In Nigeria, university regulations state that academic staff members are to be evaluated for promotion every three years.

Table 2. Research Productivity of the Academic Staff within a 3-Year Period

Research Output	Frequency (%)	Mean	SD
Textbooks	236 (27.0%)	1.94	1.51
Book chapters	320 (36.7%)	3.56	2.92
Co-authored textbooks	259 (29.7%)	2.23	1.65
Patent & certified invention	73 (8.4%)	2.63	2.25
Monographs	120 (13.8%)	2.93	2.62
Occasional papers	301 (34.5%)	4.21	2.82
Journal articles	600 (68.7%)	4.99	2.30
Technical reports	229 (26.2%)	4.26	3.18
Scientific peer-reviewed bulletins	162 (18.6%)	3.33	2.65

Conference papers	531 (60.8%)	4.79	3.51
Patents	64 (7.3%)	3.18	2.60
Working papers	312 (35.7%)	4.05	3.64
Overall Mean Score: =3.51; SD = 2.64			

Note: N=873

Table 2 shows that 600 (68.7%) of the respondents had articles published in learned journals. This finding strongly confirms the culture of publish or perish in academic institutions. 531 (60.8%) respondents had conference papers. 236 (27%) had textbooks. 320 (36.7%) had chapters in books. 312 (35.7%) had working papers. However, only 64 (7.3%) had patents in terms of invention. What this means is that copyrighted inventions were low among academics in Nigeria. In other words, the research productivity of the academic staff in the 12 Nigerian federal universities is very good in the publishing of Journal articles, Technical reports, Conference papers, Working papers, and Occasional papers. Their productivity is good in the publishing of Book chapters, Scientific peer-reviewed bulletins, and Patents. But their productivity is rather poor in the publishing of Textbooks or Co-authored textbooks, Monographs, and Patent and certified inventions.

Research Question 2: *What are the socio-demographic characteristics of academic staff members (highest educational qualification, experience, designation, and geo-political zones)?*

Educational qualifications of the academic staff at the 12 federal universities in Nigeria were quite varied. Ph.D., M.Phil., Master's, PGD (Post-Graduate Diploma), and Bachelor degrees were used to measure the level of educational qualification of the respondents.

Table 3. Distribution of Respondents by Educational Qualification

University	N %	N %	N %	N %	N %	N %	N %
	Ph.D.	M.Phil.	Master's	PGD	Bachelor	Others	Total
ABU	35(37.6%)	2 (2.2%)	51(54.8%)	0 (0%)	5(4.4%)	0 (0%)	93
ATBU	18(54.5%)	1 (3%)	11(33.3%)	0(0%)	3 (9.1%)	0 (0%)	33
NAU	42(65.6%)	3 (4.7%)	14(21.9%)	4(6.3%)	1 (1.6%)	0 (0%)	64
UDFU	20(60.6%)	3 (9.1%)	10(30.3%)	0 (0%)	0 (0%)	0 (0%)	33
UNIBEN	42(57.5%)	5 (6.8%)	19(26.0%)	3(4.1%)	4(5.5%)	0 (0%)	73
UI	64(63.4%)	5 (5.0%)	27(26.7%)	0(0%)	3 (3%)	0 (0%)	101
UNILORIN	33(47.8%)	7(10.1%)	28(40.6%)	0 (0%)	1 (1.4%)	0 (0%)	69
UNIJOS	27(43.5%)	12(19.4%)	19(30.6%)	2 (3.2%)	2 (3.2%)	0 (0%)	63
UNILAG	51(44%)	13(11.2%)	50(43.1%)	1(0.9%)	1 (0.9%)	0 (0%)	116
UNIMAD	31(44.3%)	10(14.3%)	22(31.4%)	0 (0%)	7(10%)	0 (0%)	70
UNN	45(45.9%)	7(7.1%)	44(44.9%)	1(1.0%)	0 (0%)	1 (0%)	98
UNIPOINT	40(65.6%)	8(13.1%)	12(19.7%)	1(1.6%)	0 (0%)	0 (0%)	61
Total	448(51.3%)	76 (8.7%)	307(35.2%)	12(1.4%)	27(3.1%)	3(0.3%)	873

Table 3 shows that across the 12 universities, the ratio of Ph.D. holders were higher than other educational qualifications. Ph.D. holders represent 51.3% of the respondents, M.Phil. 8.7%, Master's 35.2%, PGD 1.4%, Bachelor's 3.1%, and Others 0.3%.

The experience of the academic staff members were measured by the years of service in the universities. It was classified into 5-year interval groups. The years in service ranged from 1 to more than 10 years.

Table 4. Distribution of Respondents by Work Experience

Years	Frequency	Percentage
1-5	348	32.9%
6-10	297	28.1%
11 or more	412	39%
Total	1,057	100%

Table 4 shows that 348 (32.9%) respondents have worked for 1 to 5 years, 297 (28.1%) for 6 to 10 years, and 412 (39%) for more than 10 years.

Table 5a. Textbooks and Book Chapters Published

Universities	Academic Ranks	Textbooks			Book Chapters		
		N	Means	SD	N	Means	SD
ABU	Professor & Assoc. Professor	7	6.14	3.185	6	6.83	2.857
	Senior Lecturer & Lecturer I	6	1.83	0.408	13	1.62	0.65
	Lecturer II & below	0	0	0	2	1	0
ABU	Professor & Assoc. Professor	4	1.75	0.5	2	3.5	2.121
	Senior Lecturer & Lecturer I	2	5	1.414	1	5	0
	Lecturer II & below	1	2	0	0	4	0
NAU	Professor & Assoc. Professor	0	0	0	1	2	0
	Senior Lecturer & Lecturer I	12	1.25	0.452	22	2.19	1.1
	Lecturer II & below	3	1.33	0.577	6	4.33	4.412
UDFU	Professor & Assoc. Professor	1	2	0	0	0	0
	Senior Lecturer & Lecturer I	2	2	0	4	1.5	0.577
	Lecturer II & below	6	1.17	0.753	6	2.33	1.506
UNIBEN	Professor & Assoc. Professor	5	1	0.548	5	1.2	0.447
	Senior Lecturer & Lecturer I	11	1.73	0.786	11	2.27	2.102
	Lecturer II & below	7	1.57	0.787	8	5.75	3.284
UI	Professor & Assoc. Professor	3	2	1	3	3.67	2.517
	Senior Lecturer & Lecturer I	15	1.93	1.87	26	4.62	3.534
	Lecturer II & below	7	1.71	1.714	13	3.69	2.25
UNILORIN	Professor & Assoc. Professor	3	2	1.732	2	2.5	2.121
	Senior Lecturer & Lecturer I	13	1.64	0.751	17	4.94	3.631
	Lecturer II & below	11	1.82	0.751	13	3.15	3.387
UNIJOS	Professor & Assoc. Professor	1	2	0	0	0	0
	Senior Lecturer & Lecturer I	14	1.69	0.842	14	4.36	3.608
	Lecturer II & below	6	1.17	0.408	7	5.29	1.604
UNILAG	Professor & Assoc. Professor	6	2.33	1.211	7	4	2.449
	Senior Lecturer & Lecturer I	16	2.31	2.512	18	3.61	2.747

	Lecturer II & below	10	2	2	26	3.73	2.794
UNIMAD	Professor & Assoc. Professor	4	2	0.816	3	3	1.732
	Senior Lecturer & Lecturer I	23	1.83	1.337	25	4.96	3.645
	Lecturer II & below	4	1.5	1	2	8	2.828
UNN	Professor & Assoc. Professor	4	1.5	1.5	4	2.25	1.258
	Senior Lecturer & Lecturer I	15	2.07	1.033	29	2.66	2.483
	Lecturer II & below	5	1.4	0.548	6	1.5	0.837
UNIPORT	Professor & Assoc. Professor	0	0	1.94	2	3	1.414
	Senior Lecturer & Lecturer I	6	2.17	0	13	3.08	2.253
	Lecturer II & below	3	1	1.641	3	1	0

Table 5b. Co-Authored Books and Patents and Certified Invention

Universities	Academic Ranks	Co-authored Books			Patents and Certified Invention		
		N	Means	SD	N	Means	SD
ABU	Professor & Assoc. Professor	6	6	2.449	5	8	1.577
	Senior Lecturer & Lecturer I	2	1	0	0	0	4.176
	Lecturer II & below	2	1.5	0.707	0	0	2.856
FUTY	Professor & Assoc. Professor	6	2.17	0.408	1	3	0
	Senior Lecturer & Lecturer I	0	0	0	1	2	0
	Lecturer II & below	0	0	0	0	0	0
NAU	Professor & Assoc. Professor	2	1	0	1	1	0
	Senior Lecturer & Lecturer I	19	2.05	0.621	1	1	0
	Lecturer II & below	5	1.2	0.447	1	1	0
UDFU	Professor & Assoc. Professor	1	1	0	0	0	0
	Senior Lecturer & Lecturer I	4	2	1.414	0	0	0
	Lecturer II & below	5	1.4	1.14	2	1	1.414
UNIBEN	Professor & Assoc. Professor	7	2.14	0.69	0	0	0
	Senior Lecturer & Lecturer I	16	1.81	0.75	2	0.5	0.707
	Lecturer II & below	2	7	1.414	0	0	0
UI	Professor & Assoc. Professor	3	3.33	3.512	3	2	2
	Senior Lecturer & Lecturer I	13	1.62	1.121	5	3	2.345
	Lecturer II & below	9	2	3.4	3	1	1
UNILORIN	Professor & Assoc. Professor	3	2	1	1	7	0
	Senior Lecturer & Lecturer I	14	2.36	1.393	6	2.83	1.722
	Lecturer II & below	5	1.8	0.837	1	2	0
UNIJOS	Professor & Assoc. Professor	1	1	0	0	0	0
	Senior Lecturer & Lecturer I	16	2.06	1.181	1	1	0
	Lecturer II & below	5	3.8	3.033	0	0	0
UNILAG	Professor & Assoc. Professor	6	1.67	0.817	1	1	0
	Senior Lecturer & Lecturer I	17	2.71	1.649	5	2.4	2.191

	Lecturer II & below	17	2.53	2.302	4	3.75	2.5
UNIMAD	Professor & Assoc. Professor	5	4	2.916	2	3	2.828
	Senior Lecturer & Lecturer I	24	2.71	1.628	11	2.18	1.537
	Lecturer II & below	5	1.6	0.548	2	1.5	0.707
UNN	Professor & Assoc. Professor	3	2	1.225	0	0	0
	Senior Lecturer & Lecturer I	6	1.33	0.516	5	2.2	1.643
	Lecturer II & below	8	1	0	0	0	0
UNIPORT	Professor & Assoc. Professor	4	1.5	0.577	2	1	1
	Senior Lecturer & Lecturer I	15	1.73	0.703	5	2	1.731
	Lecturer II & below	8	1.5	0.535	2	1	0

Table 5c. Monographs and Occasional Papers Published

Universities	Academic Ranks	Monographs			Occasional Papers		
		N	Means	SD	N	Means	SD
ABU	Professor & Assoc. Professor	7	7		5	10	0
	Senior Lecturer & Lecturer I	3	2		12	3.08	1.444
	Lecturer II & below	13	1.23		7	1.86	0.378
FUTY	Professor & Assoc. Professor	3	7	2	9	5.11	2.028
	Senior Lecturer & Lecturer I	2	5.5	3.536	2	3.5	2.121
	Lecturer II & below	3	2.67	0.577	4	4	3.599
NAU	Professor & Assoc. Professor	0	0	0	1	1	0
	Senior Lecturer & Lecturer I	2	2	1.414	20	4.3	3.389
	Lecturer II & below	1	1	0	7	4	3.215
UDFU	Professor & Assoc. Professor	0	0	0	0	0	0
	Senior Lecturer & Lecturer I	1	2	1	2	7.5	3.536
	Lecturer II & below	5	1.6	1.148	4	1.5	1
UNIBEN	Professor & Assoc. Professor	1	1	0	1	4	0
	Senior Lecturer & Lecturer I	1	0	0	21	4.05	2.783
	Lecturer II & below	1	1	0	10	4.9	3.348
UI	Professor & Assoc. Professor	3	3.67	4.726	3	4	1
	Senior Lecturer & Lecturer I	9	1.78	2.729	17	3.94	2.989
	Lecturer II & below	5	2.6	1.517	7	4	2.236
UNILORIN	Professor & Assoc. Professor	1	9	0	1	10	0
	Senior Lecturer & Lecturer I	3	3.6	1.517	16	5.75	2.646
	Lecturer II & below	2	1	0	9	3.67	2.872
UNIJOS	Professor & Assoc. Professor	3	3	0	0	0	0
	Senior Lecturer & Lecturer I	0	0	0	19	5.53	3.186
	Lecturer II & below	1	3	0	10	5.4	2.716
UNILAG	Professor & Assoc. Professor	1	2	0	0	0	0
	Senior Lecturer & Lecturer I	11	1.82	1.834	14	2.79	1.626

	Lecturer II & below	8	3.32	3.023	20	3.8	3.088
UNIMAD	Professor & Assoc. Professor	2	4.5	3.536	4	5.5	3.317
	Senior Lecturer & Lecturer I	13	3	1.915	25	4.16	2.779
	Lecturer II & below	3	2	1	6	5.17	2.041
UNN	Professor & Assoc. Professor	0	0	0	8	2.25	1.668
	Senior Lecturer & Lecturer I	0	0	0	6	3.67	2.582
	Lecturer II & below	2	3	2.828	7	3.29	2.215
UNIPORT	Professor & Assoc. Professor	0	0	0	5	3	0.707
	Senior Lecturer & Lecturer I	7	3.57	2.07	14	4	2.481
	Lecturer II & below	10	2.33	0.577	5	3.2	1.643

Table 5d. Journal Articles and Technical Reports Published

Universities	Academic Ranks	Journal Articles			Technical Reports		
		N	Means	SD	N	Means	SD
ABU	Professor & Assoc. Professor	8	7	1.852	7	9.14	4.88
	Senior Lecturer & Lecturer I	25	3.72	1.745	7	4.86	0.378
	Lecturer II & below	12	3.58	1.929	1	3	0
FUTY	Professor & Assoc. Professor	10	6	1.247	10	8.7	2.983
	Senior Lecturer & Lecturer I	3	4.33	4.163	2	6.5	7.782
	Lecturer II & below	2	3	1.414	3	6.67	4.726
NAU	Professor & Assoc. Professor	2	4	1.414	1	1	0
	Senior Lecturer & Lecturer I	38	4.95	2.039	4	5.5	3
	Lecturer II & below	19	4.21	1.414	2	7.5	6.364
UDFU	Professor & Assoc. Professor	2	3	1.414	1	2	0
	Senior Lecturer & Lecturer I	6	5	2.191	3	2.67	2.082
	Lecturer II & below	6	5.17	1.835	4	0.75	0.5
UNIBEN	Professor & Assoc. Professor	9	7.89	0.333	0	0	0
	Senior Lecturer & Lecturer I	26	5.54	2.195	4	3.21	2.259
	Lecturer II & below	14	4.07	1.591	16	3.5	0.837
UI	Professor & Assoc. Professor	4	6.5	1.915	3	6.67	5.507
	Senior Lecturer & Lecturer I	43	6.23	2.328	19	4.26	3.195
	Lecturer II & below	31	4	2.251	8	2.75	2.493
UNILORIN	Professor & Assoc. Professor	5	5	2.236	2	4.5	4.95
	Senior Lecturer & Lecturer I	20	5.5	2.039	10	4.7	1.767
	Lecturer II & below	24	4.5	2.432	4	2.5	1
UNIJOS	Professor & Assoc. Professor	1	7	0	0	0	0
	Senior Lecturer & Lecturer I	21	4.81	2.421	22	4.82	3.445
	Lecturer II & below	10	3.4	1.578	9	3.56	0.727
UNILAG	Professor & Assoc. Professor	10	7.4	1.43	2	2.5	0.707
	Senior Lecturer & Lecturer I	30	5.53	2.421	9	1.44	0.727
	Lecturer II & below	53	3.77	1.578	13	3.54	3.233
UNIMAD	Professor & Assoc. Professor	4	8	0	4	5.25	4.573

	Senior Lecturer & Lecturer I	33	5.61	2.291	21	3.95	3.122
	Lecturer II & below	12	4.42	2.811	8	3.13	0.991
UNN	Professor & Assoc. Professor	14	5.86	1.916	2	5.5	3.536
	Senior Lecturer & Lecturer I	38	5.42	1.954	3	4.33	2.309
	Lecturer II & below	26	3.31	2.131	5	3	2.828
UNIPORT	Professor & Assoc. Professor	6	6.17	2.582	5	4	2.121
	Senior Lecturer & Lecturer I	22	6.09	1.765	11	4.27	2.328
	Lecturer II & below	11	4.27	1.17	4	3	2.309

Table 5e. Scientific Peer-reviewed Bulletin Articles and Conference Papers

Universities	Academic Ranks	Scientific Peer-reviewed Bulletin Articles			Conference Papers		
		N	Means	SD	N	Mean s	SD
ABU	Professor & Assoc. Professor	5	6.25	2.692	7	10.29	4.855
	Senior Lecturer & Lecturer I	5	3	0	16	4	2.191
	Lecturer II & below	6	3	0	16	2	2
FUTY	Professor & Assoc. Professor	4	5.5	3.109	5	4.4	3.362
	Senior Lecturer & Lecturer I	1	0	0	5	6.2	4.087
	Lecturer II & below	0	0	0	1	3	0
NAU	Professor & Assoc. Professor	0	0	0	1	2	0
	Senior Lecturer & Lecturer I	2	2	0	35	3.66	3.226
	Lecturer II & below	1	10	0	16	4.38	3.775
UDFU	Professor & Assoc. Professor	0	0	0	1	3	0
	Senior Lecturer & Lecturer I	2	2	1.414	5	5.2	2.28
	Lecturer II & below	4	1	0.817	6	2.67	1.211
UNIBEN	Professor & Assoc. Professor	4	5.25	1.708	5	5.2	2.588
	Senior Lecturer & Lecturer I	14	2.43	1.742	23	4.32	2.103
	Lecturer II & below	1	1	0	13	4.85	3.288
UI	Professor & Assoc. Professor	3	7.33	0	4	6.75	4.574
	Senior Lecturer & Lecturer I	10	5.2	2.658	33	4.76	3.509
	Lecturer II & below	5	1.2	1	29	3.59	3.708
UNILORIN	Professor & Assoc. Professor	1	7	0	5	6	4.528
	Senior Lecturer & Lecturer I	10	2.8	2.658	21	5.43	2.58
	Lecturer II & below	4	3.5	1	17	4.71	3.077
UNIJOS	Professor & Assoc. Professor	0	0	0	1	3	0
	Senior Lecturer & Lecturer I	9	3.44	2.455	25	5.8	3.329
	Lecturer II & below	1	1	0	12	4.71	1.875
UNILAG	Professor & Assoc. Professor	1	2	0	10	4.6	2.011
	Senior Lecturer & Lecturer I	8	4.13	2.1	22	4.64	3.837

	Lecturer II & below	10	3.5	3.536	47	4.36	3.473
UNIMAD	Professor & Assoc. Professor	4	4.25	4.031	4	10.25	5.5
	Senior Lecturer & Lecturer I	18	2.89	2.11	31	4.77	2.929
	Lecturer II & below	2	3	2.828	14	3.57	1.699
UNN	Professor & Assoc. Professor	5	3	1.732	9	6.44	5.387
	Senior Lecturer & Lecturer I	2	1	0	37	6.7	4.678
	Lecturer II & below	0	0	0	23	4.26	3.208
UNIPORT	Professor & Assoc. Professor	3	2.67	3.061	3	6	3.464
	Senior Lecturer & Lecturer I	9	1.56	1.786	18	4.44	3.713
	Lecturer II & below	5	2.2	2.987	9	4.22	1.989

Table 5f. Patents and Working Papers

Universities	Academic Ranks	Patents			Working Papers		
		N	Means	SD	N	Means	SD
ABU	Professor & Assoc. Professor	5	3	0	8	10.13	6.728
	Senior Lecturer & Lecturer I	0	1	0	20	3.25	1.713
	Lecturer II & below	0	0	0	15	2.067	1.01
FUTY	Professor & Assoc. Professor	1	10	0	1	15	0
	Senior Lecturer & Lecturer I	1	1	0	0	0	0
	Lecturer II & below	0	0	0	0	0	0
NAU	Professor & Assoc. Professor	0	0	0.707	2	2	0
	Senior Lecturer & Lecturer I	0	0	4.19	9	1.89	0.601
	Lecturer II & below	0	0	3.957	7	2.14	0.81
UDFU	Professor & Assoc. Professor	0	2	0	1	2	0
	Senior Lecturer & Lecturer I	1	0.5	0.707	3	7.67	6.658
	Lecturer II & below	2	0	0	7	2.57	2.44
UNIBEN	Professor & Assoc. Professor	2	3	3.636	7	3.29	1.38
	Senior Lecturer & Lecturer I	4	2.25	2.061	20	2.7	1.129
	Lecturer II & below	1	1	0	12	3.25	1.658
UI	Professor & Assoc. Professor	2	2.5	2.121	3	3.67	3.786
	Senior Lecturer & Lecturer I	7	1.57	1.272	17	5.41	5.557
	Lecturer II & below	3	1	1	11	3.91	2.548
UNILORIN	Professor & Assoc. Professor	1	4	0	3	9	0
	Senior Lecturer & Lecturer I	6	4.67	1.211	13	4.85	3.45
	Lecturer II & below	0	0	0	11	3.82	1.779
UNIJOS	Professor & Assoc. Professor	0	0	0	1	1	0
	Senior Lecturer & Lecturer I	4	4.25	2.872	29	4.79	3.802
	Lecturer II & below	0	0	0	17	4.06	2.249
UNILAG	Professor & Assoc. Professor	1	1	0	2	3.5	0.707
	Senior Lecturer & Lecturer I	3	1	0	8	2.63	1.061
	Lecturer II & below	3	3.67	5.508	20	3.75	4.038
UNIMAD	Professor & Assoc. Professor	1	7	6.797	3	6.67	7.371

	Senior Lecturer & Lecturer I	11	4.644	3.854	29	5.07	4.333
	Lecturer II & below	1	2	4.002	8	4.13	1.642
UNN	Professor & Assoc. Professor	0	0	4.131	3	5.67	8.083
	Senior Lecturer & Lecturer I	1	5	5.064	9	2.44	2.068
	Lecturer II & below	0	0	5.036	4	9.29	6.652
UNIPORT	Professor & Assoc. Professor	0	32.07	2.898	2	3	1.412
	Senior Lecturer & Lecturer I	3	30.93	3.496	6	2.67	1.966
	Lecturer II & below	0	2.007	2.007	3	2.33	2.309

Table 5a shows that the “Professors and Associate Professors” from ABU (Ahmadu Bello University) have published the highest number of “Textbooks” within the period of three years. This is because they had the highest mean score (M=6.14), followed by “Senior Lecturers and Lecturers I” from ATBU Abubakar (Tafawa Balewa) (M=5.00) while “Lecturers II and below” published the lowest number of “Textbooks”.

Table 5a also shows that the highest number of “Book Chapters” published was attained by the “Professors and Associate Professors” from ABU. However, across the other eleven universities, “Senior Lecturers and Lecturers I” and “Lecturers II and below” published the highest number of “Book Chapters”.

Table 5b shows that of the “Co-authored Books” published, “Lecturers II and below” from UNIBEN (University of Benin) had the highest mean scores (7.00), followed by “Professors and Associate Professors” from ABU (M=6.00), UNIMAD (M=4.00), and UI (M=3.33). The lowest mean score obtained for “Co-authored Books” was 1.00, indicating that some respondents were able to publish just one “Co-authored Book” within the period of three years.

Table 5b also shows that the “Professors and Associate professors” from ABU had the highest mean score in the number of “Patents and Certified Invention”. However, “Lecturers II and below” from UI (University of Ibadan) had a mean score of 1.00, indicating that those respondents were able to publish one patent or certified invention.

Table 5c shows that of the “Monographs” published by the respondents, “Professors and Associate professors” from UNILORIN (University of Ilorin) had the highest mean score (M=9.00), followed by ABU and ATBU with a mean score of 7.00 each.

Table 5c, Table 5e, and Table 5f show that “Occasional Papers”, “Conference Papers”, and “Working Papers” were most common types of publications by the respondents as indicated by the high mean scores across the universities and the ranks. The proportion of their mean scores ranged from 1.00 to 10.00 for “Occasional Papers”, 2 to 10.29 for “Conference Papers”, and 1.00 to 15.00 for “Working Papers”. The “Professors and Associate Professors” from ATBU had the highest number of published “Working Papers”. The highest number of “Patents” published were by the “Professors and Associate Professors” from ATBU (M= 10.000) and the lowest number published were by the “Senior Lecturers and Lecturers I” and “Lecturers II and below” across the universities.

Table 5d shows that “Technical Reports” were published more by the respondents from ABU and ATBU. The mean score for ATBU ranged from 8.70 to 6.50, and for ABU, it ranged from 3.00 to 9.14. The highest mean for “Technical Reports” was 9.14. Therefore, the highest number of “Technical Reports” were published by the “Professors and Associate Professors” in ABU.

Table 5e shows that the “Scientific Peer-reviewed Bulletin Articles” was also one of the most published types of publications by the respondents. The mean scores ranged from 1 to 10.00. The “Lecturers II and below” in NAU had the highest mean score of 10.00, and the lowest number of “Scientific Peer-reviewed Bulletin Articles” were published by “Lecturers II and below” (M=1.00) in UNIBEN, UDFU (Usman Dan Fodio University), UNIJOS (University of Jos), and UNN (University of Nigeria Nnsuka).

Table 5d shows that Articles in “Journal Articles” were highly published by the respondents. The average mean scores obtained by the respondents across the universities ranged from 3.00 to 8.00.

Table 6. Academics Research Productivity by Geo-Political Zones

Zone	Frequency	Mean	SD
North Central	185	20.69	31.24
North East	70	22.53	25.73
North West	107	11.09	25.65
South East	98	12.54	11.14
South South	55	10.65	17.05
South West	232	21.74	87.28
Total	747	18.00	53.05

Table 6 shows that the research productivity is higher in Northeast (M=22.53; SD=25.73), and Southwest (M=21.74; SD=87.28), and North Central (M=20.69; SD=31.24) Nigeria.

Research Question 3: *What are the inhibitors to academics when embarking on research activities?*

There are various challenges encountered by academic staff members when embarking on research activities.

Table 7. Inhibitors to Research Activities

Statements	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	SD
Difficult to locate most appropriate information resources in library catalogue	256 (29.3%)	373 (42.7%)	49 (5.6%)	195 (22.3%)	Nil	1.096
Too many information resources	228 (26.1%)	376 (43.1%)	89 (10.2%)	180 (20.6%)	Nil	1.064
Lack of knowledge of search techniques to retrieve information effectively	224 (25.7%)	403 (46.2%)	54 (6.2%)	192 (22.0%)	Nil	1.067
Uncooperative attitude of library personnel	199 (22.8%)	397 (45.5%)	157 (18.0%)	120 (13.7%)	Nil	0.950

Financial constraint	97 (11.1%)	108 (12.4%)	74 (8.5%)	412 (47.2%)	182 (20.8%)	1.257
Too time-consuming to retrieve needed information	95 (10.9%)	399 (45.7%)	77 (8.8%)	245 (28.1%)	57 (6.5%)	1.169
Low relevancy of information retrieved	106 (12.1%)	309 (35.4%)	210 (24.1%)	191 (21.9%)	57 (6.5%)	1.122
Slow Internet connectivity	58 (6.6%)	83 (9.5%)	102 (11.7%)	370 (42.4%)	260 (29.8%)	1.162

Table 7 shows that 195 (22.3%) respondents agreed that they found it difficult to locate information resources in their university library catalogues. However, 596 (68.3%) respondents disagreed or strongly disagreed that uncooperative attitude of library personnel was a factor. Also, 403 (46.2%) respondents disagreed that they lacked knowledge of search techniques to retrieve information effectively when embarking on research. In the same vein, 415 (47.5%) respondents strongly disagreed or disagreed that they retrieved information with low relevancy.

The major challenges that they encountered were slow Internet connectivity (72.2%) and financial resources (68%) to carry out research activities. In other words, these barriers have hindered access to information resources by academic staff in Nigerian universities.

VI. Conclusion

Socio-demographic variables have significantly contributed to the research productivity of the academic staff at federal universities in Nigeria, although the mean scores vary. Their research productivity was high in the publishing of journal articles, technical reports, conference papers, working papers, and occasional papers. On the other hand, their research productivity was lower in the publishing of textbooks, book chapters, monographs, and patents and certified inventions. The financial constraint and slow Internet connectivity were major inhibitors to their research activities.

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