



Knowledge Sharing Behaviour by Librarians in Federal Universities in Nigeria

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ABSTRACT

The ongoing debate in the international community's is on the evaluation of knowledge sharing and its impact on organisational effectiveness. Librarians play a pivotal role in helping the university to realise the objective of teaching, learning and research. Librarians provide access to information resources and services to support the vision and mission of their parent institution. Knowledge are being created daily in organisation, hence, they should be shared. Although, there have been researches on knowledge sharing by librarians in Nigeria but the focus have always been on sectional part or on one or two geo-political zones, without national study as scope of study. This study therefore investigated knowledge sharing by librarians in federal universities in Nigeria.

The population of study comprised 654 librarians from 40 federal universities in Nigeria. A total enumeration technique was used to cover 654 librarians. The descriptive statistics was employed for data analysis. 518 respondents filled and returned the questionnaire, given a response rate of 79.2%. The results revealed that the level of knowledge sharing by librarians is high ($\bar{x}=98.47$, $SD=11.54$). The channel of knowledge sharing by librarians varies significantly from face-to-face to the use of social media. Significant difference exists on knowledge sharing by librarians based on the universities. The study concludes that librarians are not only knowledge managers but also knowledge disseminators. Therefore, library administrators should establish as well as formalised knowledge sharing hours in the library so that the culture of knowledge sharing can be maintained among the librarians. Recognition and incentives be given to librarians who share knowledge so that they can share more knowledge.

Keywords: Knowledge sharing, Channels, Levels, Librarians, University libraries, Nigeria.

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I. Introduction

Organisations are beginning to appreciate the importance of knowledge sharing among employees as ingredients to work performance. This is because any establishment that failed to appropriate effective sharing of experience of his/her workers will not be able to compete effectively in market economy especially when there is challenge of turnover intention, job mobility or death of an employee who can be considered as the knowledge tank of the organisation. Knowledge sharing is critical to librarians in university libraries. Knowledge sharing empowers workers to share their understanding and encounters so as to permit quick, productive and successful arrangement of information applications to their clients (Onifade, 2015). Knowledge sharing includes dispersing data, qualities and thoughts regarding a phenomenon between two gatherings either to concur or

deviate (Tan, et al. 2010). Hence, to share knowledge, as indicated by Parekh (2009), signifies to learn, comprehend, broaden and rehash the data, the thoughts, the perspectives and the assets with one another, associated with, on a particular ground. As per Saha (2015) the achievement of information sharing, that is, the manner by which learning is utilised among administrators, is professed to expand upon the sum and nature of communication between librarians, just as upon issues identified with the hesitance to share information, and the eagerness and capacity to utilise knowledge of others. This study therefore aimed at knowing the behaviours of sharing knowledge among librarians in the federal universities in Nigeria. The specific objectives of the study are to:

1. Determine the level of knowledge sharing by librarians in federal universities in Nigeria;
2. Identify channels of knowledge sharing by librarians in federal universities in Nigeria;

3. Determine the significant difference in the knowledge sharing among librarians based on their Universities.

To achieve the identified objectives of the study, the following research questions are raised:

1. What is the level of knowledge sharing by librarians in federal universities in Nigeria?
2. What are channels of knowledge sharing by librarians in federal universities in Nigeria?

H₀₁ There is no significant difference in the knowledge sharing among librarians based on their universities.

II. Literature Review

Knowledge sharing is a procedure by which an individual offer his or her insight: mastery, knowledge, or comprehension in an unsaid or express arrangement to a beneficiary (Ford and Staples, 2010). Knowledge sharing includes exercises of spreading information starting with one individual then onto the next, to a gathering of individuals, or to the entire association. Cyr and Choo (2010) maintained that knowledge sharing in association might be seen as the conduct by which an individual deliberately furnishes different individuals from the association with access to his or her insight and encounters. Information sharing incorporates a wide scope of practices that are intricate and multi-faceted. Subsequently, learning is a procedure that interfaces the individual fields of information to the authoritative fields of learning. When individuals wouldn't share information, hoarding will be the order of the day (Cyr and Choo, 2010; Ford and Staples, 2010). Knowledge sharing is a willful procedure however it relies upon numerous individual and hierarchical variables, which may animate or hinder it (Cyr and Choo, 2010; Ford and Staples, 2010; Sanchez., Sanchez, Collado-Tuiz and Cebra-Tarrason, 2013).

Ilako and Ikoja-Odongo (2011) report that the Makerere University library staff in Uganda freely disseminates their personal know-how with other librarians remotely, specifically with Southern Sudan in the Juba Library Project (JULAP). He revealed that Educating Librarians for the Future (EDLIB) venture was begun in 2010 to suit different administrators around Southern Sudan where the job of the librarian is fundamentally to give the specialised and handy abilities to staff from Sudan. It was reported that about 30 librarians were trained under the project on the essentials of knowledge sharing.

Pasher and Ronen (2011) posit that in any organisation, sharing knowledge must overcome certain barriers before it can succeed. Knowledge sharing turns out to be right around a characteristic procedure in networks of training. A people/group of training can be characterised as a gathering of individuals who share a specific movement for all intents and purpose, and as an outcome have some basic learning, a feeling of network personality, and some component of covering esteems (Hislop, 2005). In spite of the fact that networks of training may enter in strife with the formal settings of associations, because of their high learning absorptive limit, information directors support their arrangement inside their associations so as to build

the dimension of advancement (O'Dell and Hubert, 2011). Consequently, setting up networks of training is a down to earth approach to oversee information as a benefit, similarly as organisations will oversee other basic resources.

The sharing of knowledge among librarians is a vital constituent of any knowledge management activities (Onifade, 2015). O'Dell and Hubert (2011) identifies four means through which knowledge are shared: socialisation, externalisation, combination and internalisation. Parioikh (2008) views socialisation as relations between/among two or more persons for benefits and mutual understanding. He states that although tacit knowledge is not measurable, it can be understood and can create new tacit knowledge through interaction. Forum where such knowledge conversion take place include professional discussion groups, brainstorming and thinking sessions for discussing library issues, chat rooms, tea rooms and round tables discussion where stakeholders meet to find solutions to problems.

Okonedo and Popoola (2012) studied knowledge sharing and utilisation of librarians in Nigeria, they state that librarians regularly share information about new patterns in librarianship and that they use experience picked up in discovering answer for the issues they experience at work. The study by Apolinario, Eclevia, Eclevia, Lagrama and Sagun (2014) on librarian as researcher and knowledge creator found journal article as the most research findings that serves as channels through which librarian in Philippine shared knowledge.

Knowledge sharing enables librarians to tackle issues, adapt new things and advance understanding (Boateng, Agyemang, Okoe and Mensah, 2017). Library workers can gain from one another and derive advantage from new information and advancement by each other. Also worthy of note is that workers who share their learning are in every case progressively beneficial and bound to make progress on their occupations than specialists that don't (Anna and Puspisatari, 2013). Librarians by method for sharing their insight, experience, considerations and convictions commonly build up their normal comprehension. The best consequence of utilising information sharing practices is to improve laborers' aptitudes and learning which thus expands specialists effectiveness and profitability (Pearisasamy, 2009). Pearisasamy (2009) further clarifies that knowledge sharing has helped librarians' gains from the encounters and practices of others and furthermore has expanded workers output in the library association.

Opeke and Opele (2014) submit that the knowledge-based view of the universities emphasised that there is considerable knowledge sharing when it comes to academic knowledge and skill most especially as it relate to teaching experience and publishing in reputable journals among its members. These practices of knowledge sharing are prompted by peer-competition than self-sacrificing sharing. This has probable consequences on the development of knowledge sharing groups such as interest groups and communities of practice where participants are bound informally by a mutual interest and by what they have learned through their joint involvement in these activities. Therefore, correct evaluation of knowledge is connected with seeing

knowledge as an asset.

When knowledge is shared during collective learning, it helps the entire participants to benefit as far as positive learning outcome is concerned compared to individualistic interaction. Therefore, for knowledge impact to be effective, personal knowledge must be shared. If knowledge effectiveness in library will not be limited, individual knowledge must be shared with others (Akparobore, 2015). Librarians must cultivate the habit of sharing their knowledge to guarantee a correct flow of information among each other. When this is not put in place, knowledge hoarding will become the new order (Yang, 2004). Therefore, more emphasis is needed to educate librarians to be fully prepared to play an effective role in the making of knowledge society. Until this is done, that librarians can not occupy their position as the main driving force for educational and information development and advancement. Laukes, Silverstein and Nicholson (2007) posit that effective sharing of knowledge is one of the challenges facing librarians in university libraries.

Fari (2015) studied influence of knowledge sharing on academics; with 6 universities in Nigeria and South Africa as case study, the result showed that academics in both countries frequently shared knowledge on how to mentor students, 86.3% Nigeria and 100% South Africa academics regularly shared knowledge on seminars, workshops and conferences. On regularity of utilising ICT for sharing knowledge, 100% Nigeria and South Africa academics maintained that they often utilised mobile phones, computers and the Internet for sharing knowledge. Eze (2016) states that Web 2.0 technologies is another medium through which knowledge is being shared among professionals.

Decker, (2014) places that the term Web 2.0 was first referenced by DiNucci (1999) and was promoted by Tim O'Reilly (Graham, 2005). Sharma (2008) depicts probably the most noteworthy attributes of Web 2.0 as client focused structure, publicly supporting, coordinated effort, influence decentralisation, dynamic substance, and rich client experience. Danciu and Grosseck (2011) considered social parts of Web 2.0 innovations in educators' point of

view. Results confirmed that Google locales, blogging, microblogging, long range interpersonal communication, wikis, Google books, scholarly journal, media data, TED meetings, TV, radio, smaller scale web journals, other informal communication have been utilised as information sharing methods.

III. Methodology

The research design employed in this study is descriptive survey of correlational type. The advantage of survey method is that it is wide in scope and allows a great deal of information to be obtained from a large population as data collection may be spread over a large geographical area. The study was carried out in the federal universities in Nigeria. At present, there are forty (40) federal universities in Nigeria. The forty federal universities are located in all the six (6) geo-political zones in Nigeria. The target population of this study is the librarians who have at least a bachelor degree in library and information science. The total population is 654 librarians. Total enumeration technique was used to cover all the 654 librarians working in 40 federal university libraries in Nigeria. The data collection instrument for this study was the questionnaire for librarians. The Statistical Package for Social Sciences (SPSS) was used for the data analysis. Specifically, descriptive statistics of frequency count, percentages, mean and standard deviation was used to analyse research questions 1 and 2 raised, while one way Anova was employed to test the hypothesis postulated in this study.

IV. Result

A total of 654 copies of the questionnaire were distributed to the respondents in the 40 federal university libraries in Nigeria, out of which 518 were retrieved and found usable, giving a response rate of 79.2%. Table 1 shows the copies of the questionnaire distributed and retrieved.

TABLE I
QUESTIONNAIRE ADMINISTRATION AND RESPONSE RATE

S/N	Universities	No Administered	No Retrieved	Response Rate (%)
1	Abubakar Tafawa Balewa University Library, Bauchi	20	15	75.0
2	Amadu Bello University Library, Zaria	42	31	73.8
3	Bayero University Library, Kano	14	11	78.6
4	Federal University Library, Birin-kebbi	07	07	100.0
5	Federal University Library, Dutse	16	13	81.3
6	Federal University Library, Dutsin-Ma	11	10	90.9
7	Federal University Library, Gashua	10	07	70.0
8	Federal University Library, Gusau	05	04	80.0
9	Federal University Library, Kshire	05	05	100.0
10	Federal University Library, Lafia	07	07	100.0
11	Federal University Library, Lokoja	15	09	60.0
12	Federal University Library, Ndufu-Alike	05	04	80.0
13	Federal University Library, Otuoke	09	09	100.0
14	Federal University Library, Oye-Ekiti	05	05	100.0
15	Federal University Library, Wukari	10	08	80.0
16	Federal University of Agriculture Library, Abeokuta	23	17	73.9
17	Federal University of Petroleum. Resource Library, Efurun	08	07	87.5
18	Federal University of Technology Library, Minna	22	16	72.7
19	Federal University of Technology Library. Akure	13	08	61.5
20	Federal University of Technology Library. Owerri	25	17	68.0

21	Michael Okpara University of Agriculture Library, Umudike	11	09	84.8
22	Moddibbo Adama University of Technology Library, Yola	08	06	75.0
23	National Open University of Nigeria, Abuja	24	17	70.8
24	Nigerian Defence Academy Library, Kaduna	10	09	90.0
25	Nnanmdi Azikwe University Library, Akwa	16	14	87.5
26	Obafemi Awolowo University Library, Ile-Ife	23	18	78.3
27	The Police Academy Library, Wudil	08	06	75.0
28	University of Abuja Library, Abuja	12	12	100.0
29	University of Agriculture Library, Makurdi	16	12	75.0
30	University of Benin Library, Benin	14	12	85.7
31	University of Calabar Library, Calabar	22	16	72.7
32	University of Ibadan Ibadan, Ibadan	30	25	83.3
33	University of Ilorin Library, Ilorin	23	22	95.7
34	University of Jos Library, Jos	13	11	84.6
35	University of Lagos Library, Lagos	18	14	77.8
36	University of Maiduguri Library, Maiduguri	21	18	85.7
37	University of Nigeria Library, Nssuka	50	34	68.0
38	University of Port Harcourt, Library, Port Harcourt	15	13	86.7
39	University of Uyo Library, Uyo	25	23	92.0
40	Usman Dan fodio University Library, Sokoto	22	17	77.3
	TOTAL	654	518	79.2

V. Demographic Profile of Respondents

Demographic profile (Job status, gender, marital status, age range, highest academic qualification, how long have you been working in this library, section and year of work experience) of the respondents were analysed using descriptive statistics (frequency counts and percentages) and the result is as presented in Table 2.

Reference Unit	13	2.5
Virtual Unit	31	6.0
Reprographic Unit	41	7.9
IT & Computer Section Unit	43	8.3
Serial Unit	14	2.7
Audio-Visual		
Years of work experience	Frequency	Percentage
1-9 years	243	46.9
10-19 years	157	30.3
20-29 years	72	13.9
30-39 years	40	7.7
40-49 years	4	0.8
50 + years	2	0.4
Total	518	100.0

TABLE II

DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Job Status	Frequency	Percentage
Assistant Librarian	109	21.0
Librarian II	134	25.9
Librarian I	111	21.4
Senior Librarian	85	16.4
Principal Librarian	51	9.8
Deputy Librarian	23	4.4
University Librarian	5	1.0
Gender	Frequency	Percentage
Male	306	59.1
Female	212	40.9
Marital Status	Frequency	Percentage
Single	81	15.6
Married	432	83.4
Divorced	1	0.2
Separated	1	0.2
Widowed	3	0.6
Age	Frequency	Percentage
20-29 years	22	4.2
30-39 years	225	43.4
40-49 years	153	29.5
50-59 years	97	18.7
60-69 years	21	4.1
Highest Academic Qualification	Frequency	Percentage
Ph.D.	70	13.5
M.Phil	29	5.6
Master	325	62.7
Bachelor	94	18.1
How long have you been working in this library	Frequency	Percentage
1-9 years	320	61.8
10-19 years	117	22.6
20-29 years	44	8.5
30-39 years	36	6.9
40-49 years	1	0.2
Section	Frequency	Percentage
Management Unit	55	10.6
Cataloguing/Classification Unit	104	20.1
Acquisition Unit	70	13.5
Circulation Unit	85	16.4
	62	12.0

Table 2 reveals the demographic characteristics of the respondents. The job status showed that 134(25.9%) were Librarian II Officers, 111(21.4%) were Librarian I Officers, 109(21.0%) respondents were Assistant Librarians, 85(16.4%) were Senior Librarians, 51(9.8%) were Principal Librarians, 23(4.4%) were Deputy Librarians and 5(1.0%) were University Librarian respectively. The gender of the respondents showed that 306(59.1%) were males and 212(40.9%) were females. The marital status of the respondents revealed that 432(83.4%) were married, while 81(15.6%) were single. The distribution of the respondents by age showed that 225(43.4%) were 30-39 years, 153(29.5%) were 40-49 years, 97(18.7%) were 50-59 years, 22(4.2%) were 20-29 years, and 21(4.1%) were 60-69 years respectively. The highest academic qualification revealed that 325(62.7%) had Master degree certificates, 94(18.1%) had Bachelor degree certificates, 70(13.5%) had Ph.D. certificates while 29(5.6%) had M.Phil degree certificates respectively.

The responses of the respondents on how long they have been working in their library showed that 320(61.8%) had been working in their current library for 1-9 years, 117(22.6%) had been working in their current library for 10-19 years, 44(8.5%) had been working in their current library for 30-39 years and 1(0.2%) had been working in their library for 40-49 years. Responses received on section where they worked in the library revealed that 104(20.1%) worked in the Cataloguing/Classification Unit, 85(16.4%) worked in the Circulation Unit, 70(13.5%) worked in the Acquisition Unit, 62(12.0%) worked in the Reference Unit, 55(10.6%) worked in the Management Unit, 43(8.3%) worked in the Serial Unit, 41(7.9%) worked in the IT and Computer

Unit, 31(6.0%) worked in the Reprographic Unit, 14(2.7%) worked in the Audio-Visual Unit and 13(2.5%) worked in the Virtual Unit respectively. The result of years of work experience showed that 243(46.9%) had 1-9 years work experience, 157(30.3%) had 10-19 years work experience, 72(13.9%) had 20-29 years work experience, 40(7.7%) had 30-39 years work experience, 4(0.8%) had 40-49 years work experience and 2(0.4%) had 50 and above years of work experience.

VI. Research Questions

Attempt at empirical investigation requests postulation of research questions, which can be translated into hypothesis and verified for sound scientific claim. For this study, attempts are made at answering the research questions formulated for this study.

RQ1: What is the level of knowledge sharing by the librarians in federal universities in Nigeria?

The level of knowledge sharing is as presented in Table 3.

TABLE III
LEVEL OF KNOWLEDGE SHARING BEHAVIOUR BY THE LIBRARIANS IN FEDERAL UNIVERSITIES IN NIGERIA

S/N	Knowledge sharing behaviour	SD	D	A	SA	\bar{x}	S.D
1	I think librarians should have access to experience of one another in this library	5 (1.0%)	8 (1.5%)	243 (46.9%)	262 (50.6%)	3.47	0.58
2	I share work skills got from document on job related matter with my colleagues	7 (1.4%)	5 (1.0%)	253 (48.8%)	253 (48.8%)	3.45	0.59
3	I share my experience about cataloguing and classification with colleagues	13 (2.5%)	22 (4.2%)	282 (54.4%)	201 (38.8%)	3.30	0.67
4	I share new library experience with my colleagues	6 (1.2%)	13 (2.5%)	320 (61.8%)	179 (34.6%)	3.30	0.57
5	I share lessons learnt with my colleagues through interpersonal interaction	12 (2.3%)	19 (3.7%)	305 (58.9%)	182 (35.1%)	3.27	0.64
6	I share insight with my colleagues whenever I am asked to	10 (1.9%)	25 (4.8%)	300 (57.9%)	183 (35.3%)	3.27	0.64
7	I share knowledge about new trend in librarianship with my colleagues	12 (2.3%)	28 (5.4%)	290 (56.0%)	188 (36.3%)	3.26	0.66
8	I share experience with colleagues whenever I notice the need for it	11 (2.1%)	29 (5.6%)	295 (56.9%)	183 (35.3%)	3.25	0.66
9	I am willing to share knowledge, if I can obtain a sense of achievement	15 (2.9%)	45 (8.7%)	257 (49.6%)	201 (38.8%)	3.24	0.73
10	I share knowledge outside library matters with my colleagues	7 (1.4%)	34 (6.6%)	305 (58.9%)	172 (33.2%)	3.24	0.63
11	I share experience with my colleagues during brainstorming session	11 (2.1%)	27 (5.2%)	307 (59.3%)	173 (33.4%)	3.24	0.64
12	My colleagues share new library experience with me	6 (1.2%)	21 (4.1%)	338 (65.3%)	153 (29.5%)	3.23	0.57
13	I share experience on library automation with my colleagues	10 (1.9%)	42 (8.1%)	285 (55.0%)	181 (34.9%)	3.23	0.68
14	I share useful ideas with my colleagues through seminars and workshops	9 (1.7%)	35 (6.8%)	305 (58.8%)	169 (32.6%)	3.22	0.64
15	I share new work skills I learnt with my colleagues at conferences	15 (2.9%)	24 (4.6%)	316 (61.0%)	163 (31.5%)	3.21	0.66
16	I share actionable information with my colleagues during staff meeting	11 (2.1%)	43 (8.3%)	292 (56.4%)	172 (33.2%)	3.21	0.68
17	I share insight about readers services with colleagues	12 (2.3%)	35 (6.8%)	306 (59.1%)	165 (31.9%)	3.20	0.66
18	I share experience with my colleagues through orientation and induction of new staff	12 (2.3%)	28 (5.4%)	326 (62.9%)	152 (29.3%)	3.19	0.64
19	I share ideas outside librarianship with my colleagues	10 (1.9%)	36 (6.9%)	317 (61.2%)	155 (29.9%)	3.19	0.64
20	I share experience about serials management with colleagues	9 (1.7%)	53 (10.2%)	292 (56.4%)	164 (31.7%)	3.18	0.68
21	I share new ideas about reference services with colleagues	11 (2.1%)	47 (9.1%)	300 (57.9%)	160 (30.9%)	3.18	0.67
22	I share expertise with my colleagues through community of practice	12 (2.3%)	38 (7.3%)	316 (61.0%)	152 (29.3%)	3.17	0.66
23	I share skills about collection development with colleagues	15 (2.9%)	44 (8.5%)	297 (57.3%)	162 (31.3%)	3.17	0.70
24	I am willing to share expertise, if I will be acknowledged and appreciated	18 (3.5%)	64 (12.4%)	261 (50.4%)	175 (33.8%)	3.14	0.76
25	I am willing to share my work skills, if it will be used for my promotion	26 (5.0%)	78 (15.1%)	241 (46.5%)	173 (33.4%)	3.08	0.82
26	My colleagues share new work skills they learn at conferences with me	21 (4.1%)	62 (12.0%)	308 (59.5%)	127 (24.5%)	3.04	0.73
27	I don't think I will be fulfilled if I don't share my experience with my colleagues	48 (9.3%)	74 (14.3%)	249 (48.1%)	147 (28.4%)	2.96	0.89
28	I find it difficult to share knowledge with my colleagues	80 (15.4%)	167 (32.2%)	172 (33.2%)	99 (19.1%)	2.56	0.97
29	I don't share intuitions because it is difficult to convince colleagues of the value of knowledge sharing	69 (13.3%)	214 (41.3%)	165 (31.9%)	70 (13.5%)	2.46	0.89
30	I think that my authority would be eroded	127 (24.5%)	192 (37.1%)	119 (23.0%)	80 (15.4%)	2.29	1.00

31	if I share my experience with my colleagues in the profession I don't think I have to share my insight with colleagues	150 (29.0%)	212 (40.9%)	93 (18.0%)	63 (12.2%)	2.13	0.97
32	I don't think I have time to share my expertise with my colleagues	153 (29.5%)	211 (40.7%)	95 (18.3%)	59 (11.4%)	2.12	0.89
Weighted Mean = 3.08							

Table 3 shows the rating of the responses on the level of knowledge sharing by librarians in federal universities in Nigeria. Going by the test norm of knowledge sharing scale (see Appendix 1), a score of 1-43, indicating low knowledge sharing, 44-86, moderate knowledge sharing and 87-128, high knowledge sharing of the respondents. Since the overall mean score (\bar{x} =98.47. SD =11.54) of the respondents falls within the interval 87-128, one can infer that the knowledge sharing of the respondents is good. The reason is because majority of the respondents claimed that: they think librarians should have access to experience of one another in this library; share work skills obtained from document on job related matter with their colleagues; share their experience about cataloguing and classification with colleagues; share new library experience with their colleagues; share lessons learnt with their colleagues through interpersonal interaction; share insight with their colleagues whenever they are asked to;

share knowledge about new trend in librarianship with their colleagues; shared experience with colleagues whenever they notice the need for it; are willing to share knowledge, if they can obtain a sense of achievement; shared knowledge outside library matters with their colleagues; share experience with their colleagues during brainstorming session; their colleagues shared new library experience with each other; shared experience on library automation with their colleagues; and share useful ideas with colleagues through seminars and workshops; shared new working skills learnt with their colleagues at conferences; shared actionable information with their colleagues during staff meetings, among others.

RQ2: What are the channels of knowledge sharing by the librarians in federal universities in Nigeria?

Channels of knowledge sharing by librarians is presented in Table 4.

TABLE IV
CHANNELS OF KNOWLEDGE SHARING BY THE LIBRARIANS IN FEDERAL UNIVERSITIES IN NIGERIA

S/N	I share knowledge through:	SD	D	A	SA	\bar{x}	S.D
1	Face-to-face interaction	9 (1.7%)	4 (0.8%)	201 (38.8%)	304 (58.7%)	3.54	0.61
2	The use of mobile phone	10 (1.9%)	17 (3.3%)	254 (49.0%)	237 (45.8%)	3.39	0.65
3	E-mail	17 (3.3%)	31 (6.0%)	267 (51.5%)	203 (39.2%)	3.27	0.72
4	Formal/informal meetings	12 (2.3%)	26 (5.0%)	311 (60.0%)	169 (32.6%)	3.23	0.65
5	Seminars, workshops and symposia	20 (3.9%)	27 (5.2%)	297 (57.3%)	174 (33.6%)	3.21	0.71
6	Mentoring	15 (2.9%)	55 (10.6%)	299 (57.7%)	149 (28.8%)	3.12	0.70
7	Peer assistance	17 (3.3%)	50 (9.7%)	312 (60.2%)	139 (26.8%)	3.11	0.70
8	WhatsApp	25 (4.8%)	81 (15.6%)	244 (47.1%)	168 (32.4%)	3.07	0.82
9	Google scholar	24 (4.6%)	84 (16.2%)	256 (49.4%)	154 (29.7%)	3.04	0.80
10	Notice board	27 (5.2%)	77 (14.9%)	273 (52.7%)	141 (27.2%)	3.02	0.79
11	Library news bulleting	29 (5.6%)	79 (15.3%)	269 (51.9%)	141 (27.2%)	3.01	0.81
12	Nigerian Library Association online forum	22 (4.2%)	87 (16.8%)	275 (53.1%)	134 (25.9%)	3.01	0.77
13	Yahoo messenger	29 (5.6%)	82 (15.8%)	261 (50.4%)	146 (28.2%)	3.01	0.82
14	Networking	26 (5.0%)	83 (16.0%)	282 (54.4%)	127 (24.5%)	2.98	0.78
15	The library portal	34 (6.6%)	97 (18.7%)	239 (46.1%)	148 (28.6%)	2.97	0.86
16	Twitter	36 (6.9%)	88 (17.0%)	258 (49.8%)	136 (26.3%)	2.95	0.84
17	Knowledge repositories	36 (6.9%)	85 (16.4%)	282 (54.4%)	115 (22.2%)	2.92	0.81
18	Facebook	34 (6.6%)	115 (22.2%)	230 (44.4%)	139 (26.8%)	2.92	0.86
19	LinkedIn	33 (6.4%)	114 (22.0%)	236 (45.6%)	135 (26.1%)	2.91	0.85
20	Memoranda	38 (7.3%)	97 (18.7%)	264 (51.0%)	119 (23.0%)	2.90	0.84
21	Coaching	36 (6.9%)	88 (17.0%)	289 (55.8%)	105 (20.3%)	2.89	0.80
22	Internet telephone	31 (6.0%)	115 (22.2%)	252 (48.6%)	120 (23.2%)	2.89	0.83
23	Knowledge fair	38 (7.3%)	102 (19.7%)	271 (52.3%)	107 (20.7%)	2.86	0.82
24	Research gate	33 (6.4%)	138 (26.6%)	216 (41.7%)	131 (25.3%)	2.86	0.87
25	Blog	38 (7.3%)	134 (25.9%)	218 (42.1%)	128 (24.7%)	2.84	0.88
26	Story telling	38 (7.3%)	123 (23.7%)	256 (49.4%)	101 (19.5%)	2.81	0.83
27	You Tube	38 (7.3%)	143 (27.6%)	228 (44.0%)	109 (21.0%)	2.79	0.86
28	After action review	41 (7.9%)	121 (23.4%)	265 (51.2%)	91 (17.6%)	2.78	0.82
29	World café	45 (8.7%)	134 (25.9%)	240 (46.3%)	99 (19.1%)	2.76	0.86
30	Video conferencing	43 (8.3%)	141 (27.2%)	233 (45.0%)	101 (19.5%)	2.76	0.86
31	RSS feed	44 (8.5%)	159 (30.7%)	203 (39.2%)	112 (21.6%)	2.74	0.89
32	Teleconferencing	48 (9.3%)	145 (28.0%)	230 (44.4%)	95 (18.3%)	2.72	0.87
33	Instagram	45 (8.7%)	166 (32.0%)	194 (37.5%)	113 (21.8%)	2.72	0.90
34	Skype	39 (7.5%)	169 (32.6%)	208 (40.2%)	102 (19.7%)	2.72	0.86
35	Pinterest	43 (8.3%)	170 (32.8%)	215 (41.5%)	90 (17.4%)	2.68	0.86
36	2go	55 (10.6%)	179 (34.6%)	191 (36.9%)	93 (18.0%)	2.62	0.90
37	Twoo	57 (11.0%)	212 (40.9%)	160 (30.9%)	89 (17.2%)	2.54	0.90
Weighted Mean = 2.93							

Rating of the responses on the channels of knowledge sharing by librarians in federal universities in Nigeria

reveals that: Face-to-face interaction (\bar{x} =3.54, SD = .61) was the major channel of knowledge sharing by librarians

and was followed by the use of mobile phone (\bar{x} = 3.39, SD = .65), E-mail (\bar{x} = 3.27, SD = .72), Formal/informal meetings (\bar{x} = 3.23, SD = .65), Seminars, workshops and symposia (\bar{x} = 3.21, SD = .71), Mentoring (\bar{x} = 3.12, SD = .70), Peer assistance (\bar{x} = 3.11, SD = .70), WhatsApp (\bar{x} = 3.07, SD = .82), Google scholar (\bar{x} = 3.04, SD = .80), Notice board (\bar{x} = 3.02, SD = .79), Library news bulleting (\bar{x} = 3.01, SD = .81), Nigerian Library Association online forum (\bar{x} = 3.01, SD = .77), Yahoo messenger (\bar{x} = 3.01, SD = .82), Networking (\bar{x} = 2.98, SD = .78), The library portal (\bar{x} = 2.97, SD = .86), Twitter (\bar{x} = 2.95, SD = .84), Knowledge repositories (\bar{x} = 2.92, SD = .81), Facebook (\bar{x} = 2.92, SD = .86), LinkedIn (\bar{x} = 2.91, SD = .85), Memoranda (\bar{x} = 2.90, SD = .84), Coaching (\bar{x} = 2.89, SD = .80), Internet telephone (\bar{x} = 2.89, SD = .83), Knowledge fair (\bar{x} = 2.86, SD = .82), Research gate (\bar{x} = 2.86, SD = .87), Blog (\bar{x} = 2.84, SD = .88), Storytelling (\bar{x} = 2.81, SD = .83), You Tube (\bar{x} = 2.79, SD = .86), After action review (\bar{x} = 2.78, SD = .82), World café (\bar{x} = 2.76, SD = .86), Video conferencing (\bar{x} = 2.76, SD = .86), RSS feed (\bar{x} = 2.74, SD = .89), Teleconferencing (\bar{x} = 2.72, SD = .87), Instagram (\bar{x} = 2.72, SD = .90), Skype (\bar{x} = 2.72, SD = .86), Pinterest (\bar{x} = 2.68, SD = .86), 2go (\bar{x} = 2.62, SD = .90) and Twoo (\bar{x} = 2.54, SD = .90) respectively.

Hypothesis one: There is no significant difference in the knowledge sharing among librarians based on their Universities.

TABLE V
ONE-WAY ANALYSIS OF VARIANCE SHOWING THE DIFFERENCE IN THE KNOWLEDGE SHARING AMONG LIBRARIANS BY UNIVERSITIES

Source of variation	Sum of square	DF	Mean square	F	P
Universities	9305.931	39	238.614	1.915	.001
Error	59556.944	478	124.596		
Total	68862.875	517			

Table 5 shows that there is a significant difference in the knowledge sharing among librarians based on their Universities ($F = 1.915, P(0.001) < .05$). Hence, there is a difference in the knowledge sharing among librarians by universities. The hypothesis is therefore rejected. Furthermore, a post-hoc analysis was conducted using pairwise multiple comparisons revealed the significant difference in the knowledge sharing by librarians based on the Universities (see Appendix 2). Table 6 in the appendix II shows that there is a pairwise difference between Modibbo Adama University of Technology, Yola and Federal University, Lokoja. Similarly, there is pairwise difference between University of Calabar and Federal University of Technology, Owerri, Obafemi Awolowo University, University of Benin, Federal University of Technology, Minna, Federal University Lokoja, Federal University of Agriculture, Abeokuta, Federal University Otuoke, University of Ibadan, University of Uyo, University of Lagos, Federal University of Technology, Akure, Abubakar Tafawa Balewa University and National Open University of Nigeria. Pairwise difference also exists between the

knowledge sharing of librarians in Micheal Okpara University of Agriculture and Federal University, Lokoja and University of Ibadan. Therefore, one can conveniently conclude that the degree of knowledge sharing by librarians in Nigerian federal universities varies significantly.

VII. Discussion of Findings

Result on the level of knowledge sharing by librarians revealed that high proportion of librarians shared knowledge among themselves. The study found that majority of librarians think that they should have access to experience of one another in the library. This is in line with the submission of Tan, Lye and Lim (2010) that when knowledge is shared among librarians, the process of bringing knowledge and getting knowledge would have been established and that librarians with limited knowledge will benefit from the advantage of knowledge sharing. McAdam, Moffett and Peng (2012) also maintained that when knowledge is shared among employee of any organization, each worker will learn from the experiences and practices of one another especially if it is done under an enabling environment. The study further revealed that librarians shared more of coded knowledge than the tacit knowledge. As revealed from the study, 97.6% respondents claimed that they shared working skills got from the document on job related matter with their colleagues. This findings corroborated the submissions of Apolinario, Eclevia, Lagrama and Sagun (2014) that librarians in Phillipine shared knowledge through the channel of journal publication with their colleagues.

The result is also in consonance with the findings of Okonedo and Popoola (2010) in Nigeria, Opeke and Opele (2014) on the knowledge-based view of the universities maintained that there is substantial knowledge sharing in term of academic knowledge and expertise in the form of journal publications and teaching among its members. A positive attitude of the librarians towards knowledge sharing is also discovered in the study and this is because most of them also shared tacit knowledge with their colleagues. They shared experiences about cataloguing and classification, new experiences and lessons learnt through personal interaction with colleagues. This is in line with the submission of Boateng, et al. (2017) that knowledge sharing help workers to solve problems, learn new things and increase understanding. Similarly, Ilako and Ikoja-Odongo (2011) noted that Makerere University Library staff in Uganda shared their knowledge, specifically with librarians in the Southern Sudan. The findings showed that librarians shared knowledge in the form of experience, insight, (tacit) as well as in the codified form (explicit).

The findings of the study revealed further that librarians shared knowledge with colleagues whenever they asked for it, shared knowledge about new trends in librarianship with colleagues are willing to share the knowledge even if it is outside library matter, shared experiences on library automation with colleagues, shared useful experience and ideas through seminars and workshops with colleagues, shared new working skills learnt at conferences with colleagues, shared actionable

information with colleagues during staff meeting, shared insight about readers services with colleagues, they engaged in knowledge sharing through orientation and induction of new staff, shared experience about serials management with colleagues and that they are willing to share their working skills with colleagues if it will be acknowledged and appreciated and that they shared knowledge through community of practice. This findings is however at variance with the finding of Onifade (2015) in her survey of knowledge sharing among librarians in Nigeria where he submitted that Nigeria librarians do not really share knowledge among one another. It could however be deduced from the test norm that the level of knowledge sharing among the librarians in the federal universities in Nigeria is good.

The finding of the study which revealed that the level of knowledge sharing among the librarians in the federal universities in Nigeria is high is at variance with the study of Akparobore (2015) whose result revealed that the rate at which the librarians in university libraries in Nigeria shared knowledge is low. The finding of this result affirmed the position of two major findings among university librarians in South-west, Nigeria (Okonedo and Popoola, 2012 and Awodoyin, Osisanwo, Adetoro and Adeyemo 2016) who found out that there was a high level of knowledge sharing among librarians studied.

Other inferences that can be rightly drawn from the findings of the study is that there is mutual relationship among the librarians investigated. It should be noted that where there is no mutual co-existence among employee, it will be difficult to establish a good knowledge sharing culture. The result showed further that while the respondents shared actionable information with their colleagues, their colleagues reciprocated the same gesture. Majority (94.8%) of the respondents affirmed that they do not only share their experience with their colleagues, they also shared from their colleague's new library experiences. Eighty-four percent (84%) respondents agreed that their colleagues share new working skills they learnt at conferences with them. The above assertion is in agreement with the submission of Zamiri and Baeutayan (2012) who claimed that knowledge sharing is an essential component of knowledge management process and it is associated with the exchange of information and transferring of knowledge of knowledge among librarians.

The result of the study showed various channel through which librarians in the federal universities in Nigeria shared their knowledge. The main channel used is through face-to-face interaction and 97.5% of the respondents shared their knowledge through this medium, 94.8% shared their own knowledge through mobile phone while 90.7% respondents' uses e-mail as their medium of knowledge sharing among librarians. This is in support of the findings of Awodoyin et al (2016) who found that academic librarians in Nigeria primarily use face-to-face interaction, mobile phones, e-mails and newsletter as a means of knowledge sharing among one another. It is also deduced from the study that librarians in federal universities in Nigeria employed the medium of personal interactions as well as the use of technologies to disseminate information among one another.

This finding supported the earlier findings of Nassuora (2011) and Anna Pupsitasari (2013) who maintained that

prominent among technologies use by librarians for knowledge sharing includes; email, mobile telephone and formal/informal meeting among librarians. Other channel of knowledge sharing used by the librarians as revealed from the study are formal/informal meeting(92.7%), seminars, workshops and symposia (90.9%), mentoring (86.5%) and peer assistance (87.1%). This finding agreed with the findings of Okonedo and Popoola (2012) that majority of librarians in Nigeria shared knowledge through seminars and workshops. Similarly, Maponya (2004) studied knowledge management practices in academic libraries in South Africa, reported that librarians shared knowledge informally among themselves. This is a good development among librarians, when compared with the findings of Onifade (2015) on the subject matter. This result may be linked with the fact that every organisation are beginning to understand the need for the knowledge to be shared especially on work related knowledge.

Several organisations who had invested heavily on manpower development but failed to incorporate the culture of knowledge sharing among their employee finds themselves regretting especially when such an employee suddenly leave the organisation. Therefore, there is great hope for continuity of effective service delivery based on the findings of this study. Librarianship as a profession is not likely to suffer brain-drain because of the culture of knowledge sharing that librarians in the federal universities employed. The study also found positive attitude to use of information technologies especially the use of social media as channel through which librarians shared knowledge among themselves. The study revealed that majority of the respondent uses WhatsApp as channel of knowledge sharing. Other medium used by majority of the respondent includes: Google scholar, Twitter, Facebook, LinkedIn, Internet telephone, coaching, knowledge fair, research gate, you tube, video conferencing, blogs and a host of other medium. The finding confirmed previous empirical studies of (Danesgar & Paviroh, 2007; Mavodza, 2010; Nassuora, 2011) that librarians use the medium of Web 2.0 such as facebook, twitter, youtube and blogs to share information among themselves as well as with library users.

Furthermore, the study revealed that librarians share knowledge through communities of practice like the Nigerian Library Association (NLA) online forum. Among the respondents, 80.3% agreed to the fact that they shared their knowledge through the platform of NLAs' online forum, 71.6% of the respondents shared knowledge through LinkedIn, 79.1% shared theirs through library news/ bulletins while 67% respondents shared their own information through research gate. It should be noted however that such attitude should be maintained by the librarians. The advantage of this to the librarianship profession is that it gives access to the best practices in the profession. This is in consonance with the findings of Sanchez, Collado-Tuiz and Cebarin-Tarasson (2013) who posit that personal and organisational factors are predictors for good knowledge sharing behavior. The study corroborated the finding of Alrashdi and Srinivas (2016) in a study in Sultan Qaboos University Library, who found mobile applications as a major means of sharing knowledge by the library professionals.

VIII. Conclusion

The study investigated knowledge sharing by librarians in federal universities in Nigeria. The study concludes that a good knowledge sharing behaviour exists among the librarians in federal universities in Nigeria. As it was in other organisations, the level of knowledge sharing among the librarians is high. The channels through which the librarians in federal universities in Nigeria shared knowledge include face-to-face interaction, the use of mobile phone, e-mail formal/informal meeting, seminars, workshops and symposia, mentoring, peer assistance, WhatsApp, Google scholar, notice board, library bulletin and Nigerian Library Association online forum.

IX. Recommendations

Based on the findings of the study, the following recommendations are hereby made:

Although, the study revealed that the level of knowledge sharing among librarians is high, there was no formal knowledge sharing among the librarians. Therefore, knowledge sharing hour should be inculcated into the practice of librarianship where both tacit and explicit knowledge of the librarians can be shared on topics of interest relating to professional practice. When this is strictly adhered to, it will bridge the gap in knowledge among librarians. Arising from finding to research question 2, librarians should increase their knowledge in the use ICT tools and social media for knowledge sharing.

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Appendix 1

Table showing the test of norm on knowledge sharing behaviour by librarians in federal universities in Nigeria
Grand mean = 98.47, Maximum score = 128, Interval = $\frac{128}{3} = 42.67$, Classification = High, Moderate, Low

Interval	Range	Level	Frequency	Percentage
1-43		Low	2	0.4
44-86		Moderate	37	7.1
87-128	98.47	High	479	92.5

Appendix II

POST HOC ANALYSIS

Pairwise multiple comparisons of knowledge sharing by universities

Name of University (I)	Name of University (J)	Mean difference	Std. Error	P-value
ModibboAdama University Yola	Federal University Lokoja	15.6111	5.8830	0.001*

	Federal University of Technology Owerri	9.80147*	3.8879	0.012
	ObafemiAwolowo University	9.45833*	3.8352	0.014
	University of Benin	10.20833*	4.2626	0.017
	Federal University of Technology Minna	12.0625*	3.9464	0.002
	Federal University Lokoja	18.73611*	4.6509	0.000
	Federal University of Agriculture Abeokuta	9.62500*	3.8879	0.014
University of Calabar	Otueke University Bayelsa	11.18056*	4.6509	0.017
	University of Ibadan	12.62500*	3.5736	0.000
	University of Uyo	8.53804*	3.6338	0.019
	University of Lagos	9.19643*	4.0849	0.025
	Federal University of Technology, Akure	10.0000*	4.8334	0.039
	AbubakarTafawaBalewa University	11.55833*	4.0116	0.004
	National Open University of Nigeria	11.50735*	3.8879	0.003
MichealOkpara University of Agriculture	Federal University Lokoja	15.55556*	5.2619	0.003
	University of Ibadan	9.44444*	4.3391	0.030
	Federal University of Technology Minna	13.18750*	6.2398	0.035
Federal University Ndufu Alike	Federal University Lokoja	19.86111*	6.7076	0.003
	University of Ibadan	13.75000*	6.0110	0.023
	AbubakarTafawaBalewa University	12.68333*	6.2813	0.044
	National Open University of Nigeria	12.63235*	6.2030	0.042
	University of Calabar	9.80147*	3.8879	0.012
	Federal University of Petroleum Delta	12.74790*	5.0128	0.011
Federal University of Technology, Owerri	University of Ilorin	7.44920*	3.6045	0.039
	Usman Dan Fodio University	8.58824*	3.8286	0.025
	Federal University Dutsina-ma, Kastina	10.67647*	4.4484	0.017
	Federal University of Technology, Owerri	12.74790*	5.0128	0.011
	University of Benin	13.15476*	5.3087	0.014
Nigeria Police Academy		12.23810*	6.2101	0.049
	Federal University of Technology Minna	15.00893*	5.0583	0.003
	Federal University of Agriculture Abeokuta	12.57143*	5.0128	0.012
Federal University of Petroleum Delta	Otueke University Bayelsa	14.12698*	5.6252	0.012
	University of Jos	11.48052*	5.3968	0.034
	University of Ibadan	15.57143*	4.7731	0.001
	University of Uyo	11.48447*	4.8183	0.018
	University of Lagos	12.14286*	5.1671	0.019
	Federal University of Technology Akure	12.94643*	5.7770	0.025
AbubakarTafawaBalewa University		14.50476*	5.1093	0.005

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	Ahmadu Bello University	12.8940 1*	4.6710 5	0.00 6	University	University of Benin	8.99510 *	4.2085 9	0.03 3
	University of Abuja	13.5714 3*	5.3087 2	0.01 1		Federal University of Technology, Minna	10.8492 6*	3.8879 9	0.00 5
	National Open University Nigeria	14.4537 8*	5.0128 5	0.00 4		Federal University Lokoja	17.5228 8*	4.6014 3	0.00 0
Federal University Dutse	Federal University Lokoja	12.2649 6*	4.8402 8	0.01 2		Otueke University Bayelsa	9.96732 *	4.6014 3	0.03 1
	Federal University of Technology, Minna	10.2946 4*	5.0583 3	0.04 2		University of Ibadan	11.4117 6*	3.5089 9	0.00 1
Federal University GashuaYobe	Federal University Lokoja	16.9682 5*	5.6252 5	0.00 3		University of Uyo	7.32481 *	3.5702 1	0.04 1
	University of Ibadan	10.8571 4*	4.7731 8	0.02 3		University of Lagos	7.98319 *	4.0285 1	0.04 8
	Federal University of Technology, Owerri	7.44920 *	3.6045 3	0.03 9		AbubakarTafawaBalewa University	10.3451 0*	3.9541 9	0.00 9
	ObafemiAwolowo University	7.10606 *	3.5476 0	0.04 6		Ahmadu Bello Univeristy	8.73435 *	3.3687 4	0.01 0
	Federal University of Technology Minna	9.71023 *	3.6675 2	0.00 8		University of Abuja	9.41176 *	4.2085 9	0.02 6
	Federal University Lokoja	16.3838 4*	4.4167 3	0.00 0		National Open University of Nigeria	10.2941 2*	3.8286 2	0.00 7
	Federal University of Agriculture Abeokuta	7.27273 *	3.6045 3	0.04 4		University of Calabar	12.0625 0*	3.9464 6	0.00 2
University of Ilorin	Otueke University Bayelsa	8.82828 *	4.4167 3	0.04 6		Federal University Ndufu Alike	- 13.1875 0*	6.2398 9	0.03 5
	University of Ibadan	10.2727 3*	3.2630 2	0.00 2		Federal University of Petroleum Delta	- 15.0089 3*	5.0583 3	0.00 3
	AbubakarTafawaBalewa University	9.20606 *	3.7376 3	0.01 4		Federal University GashuaYobe	- 10.2946 4*	5.0583 3	0.04 2
	Ahmadu Bello University	7.59531 *	3.1117 0	0.01 5		University of Ilorin	- 9.71023 *	3.6675 2	0.00 8
	University of Abuja	8.27273 *	4.0058 0	0.03 9	Federal University of Technology Minna	Nigeria Defense Academy	- 9.43750 *	4.6509 4	0.04 3
	National Open University of Nigeria	9.15508 *	3.6045 3	0.01 1		Federal University Lafia	- 10.5803 6*	5.0583 3	0.03 7
	University of Calabar	- 9.45833 *	3.8352 7	0.01 4		Usman Dan Fodio University	- 10.8492 6*	3.8879 9	0.00 5
ObafemiAwolowo University	Federal University of Petroleum Delta	- 12.4047 6*	4.9720 7	0.01 3		University of Benin Kebbi	- 12.0089 3*	5.0583 3	0.01 8
	University of Ilorin	- 7.10606 *	3.5476 0	0.04 6		Federal University Dutsina-ma, Kastina	- 12.9375 0*	4.4996 5	0.00 4
	Usman Dan Fodio University	- 8.24510 *	3.7750 7	0.02 9		ModibboAdamaUnviersityYola	- 15.6111 *	5.8830 3	0.00 8
	Federal University Dutsina-ma ,Kastina	- 10.3333 *	4.4024 6	0.01 9		University of Calabar	- 18.7361 1	4.6509 4	0.00 0
	University of Calabar	- 10.2083 3*	4.2626 6	0.01 7		MichealOkpara University of Agriculture	- 15.5556 *	5.2619 4	0.00 3
University of Benin	Federal University of Petroleum, Delta	- 13.1547 6*	5.3087 2	0.01 4		Federal University Ndufu Alike	- 19.8611 1*	6.7076 9	0.00 3
	Usman Dan Fodio University	- 8.99510 *	4.2085 9	0.03 3	Federal University Lokoja	Federal University of Petroleum, Delta	- 21.6825 4*	5.6252 5	0.00 0
	Federal University Dutsina-ma, Kastina	- 11.0833 3*	4.7794 0	0.02 1		Federal University Duste	- 12.2649 6*	4.8402 8	0.01 2
Nigeria Defense Academy	Federal University of Technology, Minna	9.43750 *	4.6509 4	0.04 3		Federal University Gashua, Yobe	- 16.9682 5*	5.6252 5	0.00 3
	University of Ibadan	10.000* 1	4.3391 1	0.02 2		University of Ilorin	- 16.3838 4*	4.4167 3	0.00 0
	Federal University of Technology, Minna	10.5803 6*	5.0583 3	0.03 7		ObafemiAwolowo University	- 9.27778 *	4.5569 7	0.04 2
Federal University Lafia	University of Ibadan	11.1428 6*	4.7731 8	0.02 0					
	AbubakarTafawaBalewa University	10.0761 9*	5.1093 9	0.04 9					
Nigeria Police Academy	Federal University of Petroleum, Delta	- 12.2381 0*	6.2101 1	0.04 9					
Usman Dan Fodio	ObafemiAwolowo University	8.24510 *	3.7750 7	0.02 9					

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	Nigeria Defense Academy	- 16.1111 *	5.2619 4	0.00 2		Otueke University Bayelsa	11.1269 8*	5.6252 5	0.04 8
	Federal University Lafia	- 17.2539 7*	5.6252 5	0.00 2		University of Ibadan	12.5714 3*	4.7731 8	0.00 9
	Usman Dan Fodio University	- 17.5228 8*	4.6014 3	0.00 0		Ahmadu Bello University	9.89401 *	4.6710 5	0.03 5
	Federal University Maduguri	- 13.1111 1*	4.5569 7	0.00 4		University of Abuja	10.5714 3*	5.3087 2	0.04 7
	Federal University Oye Ekiti	- 17.7111 1*	6.2260 1	0.00 5		National Open University of Nigeria	11.4537 8*	5.0128 5	0.02 3
	Federal University of Agriculture, Abeokuta	- 9.11111 *	4.6014 3	0.04 8		University of Calabar	- 11.1805 6*	4.6509 4	0.01 7
	University of Benin Kebbi	- 186825 4*	5.6252 5	0.00 1	Otueke University Bayelsa	- 9.96732 *	4.6014 3	0.03 1	
	University of Jos	- 10.2020 2*	5.0170 6	0.04 3		University of Benin Kebbi	- 11.1269 8*	5.6252 5	0.04 8
	University of Port Harcourt	- 12.1111 *	4.8402 8	0.01 3		Federal University Dutsina-ma, Kastina	- 12.0555 6*	5.1287 1	0.01 9
	Federal University Dutsina-ma, Kastina	- 19.6111 1*	5.1287 1	0.00 0	University of Jos	- 11.4805 2*	5.3968 8	0.03 4	
	University of Agriculture Markurdi	- 12.1111 *	4.9221 0	0.01 4		Federal University Lokoja	10.2020 2*	5.0170 6	0.04 3
	Bayero University Kano	- 11.8383 8*	5.0170 6	0.01 9		University of Calabar	- 12.6250 0*	3.5736 7	0.00 0
	University of Uyo	- 10.1980 7*	4.3887 6	0.02 1		MichealOkpara University of Agriculture	- 9.44444 *	4.3391 1	0.03 0
	University of Lagos	- 9.53968 *	4.7690 4	0.04 6		Federal University Ndufu Alike	- 13.7500 *	6.0110 6	0.02 3
	University of Nigeria Nsukka	- 12.7581 7*	4.1843 3	0.00 2		Federal University of Petroleum, Delta	- 15.5714 3*	4.7731 8	0.00 1
	Ahmadu Bello University	- 8.78853 *	4.2264 9	0.03 8		Federal University GashuaYobe	- 10.8571 4*	4.7731 8	0.02 3
	AKWA	- 14.0396 8*	4.7690 4	0.00 3		University of Ilorin	- 10.2727 3*	3.2630 2	0.00 2
	Federal University Wukari	- 12.8611 1*	5.4238 8	0.01 8	University of Ibadan	Nigeria Defense Academy	- 10.000*	4.3391 1	0.02 2
Federal University Maduguri	Federal University Lokoja	- 13.1111 *	4.5569 7	0.00 4		Federal University Lafia	- 11.1428 6*	4.7731 8	0.02 0
Federal University Oye Ekiti	University of Ibadan	- 7.000*	3.4504 9	0.04 3		Usman Dan Fodio University	- 11.4117 6*	3.5089 9	0.00 1
	Federal University Lokoja	- 17.7111 1*	6.2260 1	0.00 5		Federal University Maduguri	- -7.000*	3.4504 9	0.04 3
	University of Ibadan	- 11.6000 *	5.4683 7	0.03 4		Federal University Oye Ekiti	- 11.6000 *	5.46.8 37	0.03 4
	University of Calabar	- 9.62500 *	3.8879 9	0.01 4		University of Benin	- 12.5714 3*	4.7731 8	0.00 9
Federal University of Agriculture, Abeokuta	Federal University of Petroleum Delta	- 12.5714 3*	5.0128 5	0.01 2		Federal University Dustina-MA Kastina	- 13.5000 0*	4.1765 4	0.00 1
	University of Ilorin	- 7.27273 *	3.6045 3	0.04 4		University of Nigeria Nsukka	- 6.64706 *	2.9408 2	0.02 4
	Usman Dan Fodio University	- 8.41176 *	3.8286 2	0.02 8		Federal University of Technology Owerri	- 10.6764 7*	4.4846 7	0.01 7
	Federal University Dutsina-ma, Kastina	- 10.5000 *	4.4484 6	0.01 9	Federal University Dutsina-MA	Obafemi Awolow University	- 10.3333 3*	4.4024 6	0.01 9
University of Benin Kebbi	Federal University of Technology, Minna	- 12.0089 3*	5.0583 3	0.01 8		University of Benin	- 11.0833 3*	4.7794 0	0.02 1

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	Federal University of Tech Minna	12.9375 0*	4.4996 5	0.00 4				9*		
	Federal University of Lokoja	19.6111 1	5.1287 1	0.00 0		Usman Danfodio University	10.3451 0*	3.9541 9	0.00 9	
	Federal University of Agric Abeokuta	10.5000 0*	4.4484 6	0.01 9		University of Bernin Kebbi	- 11.5047 6*	5.1093 9	0.02 5	
	Otueke University Bayelsa	12.0555 6*	5.1287 1	0.01 9		Federal University Dutsina-Ma kastina	- 12.4333 3*	4.5569 7	0.00 7	
	University of Ibadan	13.5000 0*	4.1765 4	0.00 1		University of Calabar	- 9.94758 *	3.4360 6	0.00 4	
	University of Uyo	9.41304 *	4.2281 0	0.02 6		Usman Danfodio University	- 873435 *	3.3687 4	0.01 0	
	University of Lagos	10.0714 3*	4.6216 2	0.03 0	Ahmdu Bello University	Federal University Dutsina-Ma	- 10.8225 8*	4.0594 1	0.00 8	
	Federal University of Technology Akure	10.8750 0*	5.2947 3	0.04 1		Federal University of Lokoja	- 14.0396 8*	4.7690 4	0.00 3	
	Abubakar Tafawa Balewa University	12.4333 3	4.5569 7	0.00 7		University of Ibadan	7.92857 *	3.7260 7	0.03 4	
	Ahmadu Bello University	10.8225 8*	4.0594 1	0.00 8		University of Calabar	- 10.6250 0*	4.2626 6	0.01 3	
	NOUN	12.3823 5*	4.4484 6	0.00 6	Akwa	Federal University of Petroleum Delta	13.5714 3*	5.3087 2	0.01 1	
University of Agriculture Markurdi	Federal University of Lokoja	12.1111 1*	4.9221 0	0.01 4		University of Ilorin	8.27273 *	4.0058 0	0.03 9	
Bayero Kano	Federal University of Lokoja	11.8383 8*	5.0170 6	0.01 9		University of Abuja	- 9.41176 *	4.2085 9	0.02 6	
	University of Calabar	8.53804 *	3.6338 0	0.01 9		University of Bernin Kebbi	- 10.5714 3*	5.3087 2	0.04 7	
	Federal University of Petroleum Delta	11.4844 7*	4.8183 7	0.01 8	University of Abuja	Federal University Dutsin-ma Kastina	- 11.5000 0*	4.7794 0	0.01 6	
University of Uyo	Usman Dan Fodio University	7.32481 *	3.5702 1	0.04 1		University of Calabar	- 11.5073 5*	3.8879 9	0.00 3	
	Federal University of Lokoja	10.1980 7*	4.3887 6	0.02 1		Federal University Ndufu Alike	- 12.6323 5*	6.2030 8	0.04 2	
	Federal University Dutsina-MA Katsina	9.41304 *	4.2281 0	0.02 6		Federal University of Petroleum Delta	- 14.4537 8*	5.0128 5	0.00 4	
	University of Calabar	9.19643 *	4.0849 7	0.02 5		University of Ilorin	- 9.15508 *	3.6045 3	0.01 1	
	Federal University of Petroleum Delta	12.1428 6*	5.1671 2	0.01 9	NOUN	Federal University of Lafia	- 10.0252 1	5.0128 5	0.04 6	
University of Lagos	Usman Danfodio University	7.98319 *	4.0285 1	0.04 8		Usman Danfodio University	- 10.2941 2*	3.8286 2	0.00 7	
	Federal University of Lokoja	9.53968 *	4.7690 4	0.04 6		University of Benin	- 11.4537 8*	5.0128 5	0.02 3	
	Federal University Dutsin-Ma Kastina	10.0714 3*	4.6216 2	0.03 0		Federal University Dutsina-Ma Kastina	- 12.3823 5*	4.4484 6	0.00 6	
Federal University of Akure	University of Calabar	10.0000 0*	4.8334 0	0.03 9						
	Federal University Dutsin-Ma Kastina	10.8750 0*	5.2947 3	0.04 1						
University of Nigeria Nsukka	Federal University of Lokoja	12.7581 7*	4.1843 3	0.00 2						
	University of Ibadan	6.64706 *	2.9408 2	0.02 4						
Abubakar Tafa Balewa University	University of Calabar	11.5583 3*	4.0169 4	0.00 4						
	Federal University of Ndufu Alike	12.6833 3*	6.2813 6	0.04 4						
	Federal University of Petroleum Delta	14.5047 6*	5.1093 39	0.00 5						
	University of Ilorin	9.20606 *	3.7376 3	0.01 4						
	Federal University of Lafia	10.0761 9	5.1093 9	0.04 9						



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