Adoption of Information and Communication Technology for Knowledge Sharing in the Midst of Covid-19 Pandemic among Academics in Ahmadu Bello University Zaria, Nigeria

Abdurrahman Jibril
Department of Library and Information Science,
Ahmadu Bello University,
Zaria, Nigeria.
jabdurrahman@abu.edu.ng & jblibs2014@gmail.com

Abstract
This research was carried out to investigate Adoption of Information and Communication Technology for Knowledge Sharing in the Midst of Covid-19 Pandemic among Academics in Ahmadu Bello University Zaria, Nigeria. The objectives of the study determined the type of Information and Communication Technologies (ICT) academics adopted for knowledge sharing, level of ICT literacy competence among academics for knowledge sharing and the extent to which adoption Information and Communication Technologies (ICTs) by academics enhance knowledge sharing Ahmadu Bello University Zaria. The study adopted quantitative research methods and specifically a survey research design. The population comprised academics in Ahmadu Bello University Zaria. A total number of 2,201 academics constituted the population out of which 10% which is 220 academics was used as sample. Questionnaire was used as instrument for data collection. Descriptive statistic was used to analyze the data collected. The study established that Computers, printers, the Internet, projector, PowerPoint, email, CD-ROM, handheld devices are the ICTs facilities adopted for knowledge sharing among the academics, Lecturer I-Assistant lecturer cadre had the highest ICT competence literacy among all the three levels of academics. The study also revealed that adopting ICTs enhance on wide distribution and easy access to information, deepen enquiry among academics, wide distribution of research findings, enabling working together irrespective of locations among others. The study concluded that the most advanced ICT such as smart board, E-books, teleconferencing and video conferencing should be deployed to provide adequate training for the adoption of these facilities in knowledge sharing in the university. The study recommended amongst other that latest information and communication technology facilities like video conferencing, zoom technology and its related should be provided, academics should be equipped with information literacy skills with emphasis on knowledge sharing techniques, training, and retraining on the adoption of ICT facilities should be given.

Keywords: *Academics, Adoption, Information and Communication Technology, Knowledge sharing, Ahmadu Bello University, Zaria, Nigeria*

Introduction

The acquisition of knowledge by academics in universities brought about the need to transfer and share it among colleagues and students. It is a known fact that individuals and organizations have not accessed a vast amount of knowledge because of the failure to share it among academics and students. It is essential and of great concern therefore, individuals such as academics who engage in teaching and research in educational institutions such as universities to share knowledge among themselves primarily through the information and communication technology (ICT) facilities.

Knowledge is viewed as a set of truths, beliefs, ideas, perspectives, concepts, judgments, expectations, methodologies and know-how shared through a medium, stored in an object be it print or non-print. Mohammed (2015) opined that knowledge is facts, information, perspectives, concepts, beliefs, judgments and expectations, methodologies, subjective, objective and know-how recorded or in people's minds. They are mostly acquired or shared during our actions at various times. Knowledge is about the volumes of required and relevant information capable of effectively changing the way individuals think, work and relate with other individuals. Therefore, it is a concept that refers to an understanding gained through experience, know-how or familiarity in carrying out activities such as teaching and research that enables a person achieves results which must be shared to ensure effective use.

Knowledge sharing (KS) is referred to as the transfer of knowledge between and among individuals, and within and among teams, organizational units, and organizations. It is also the transfer of knowledge between two individuals: one who communicates knowledge and one who assimilates it. Termouri, Soroosh, and Hamidipour (2011) defined knowledge sharing as the process by which individuals' experience is converted into a form that can be understood, absorbed, and used by other individuals. Paulin and Suneson (2012) asserted that knowledge sharing is all about the transfer of knowledge between two individuals, one who communicated and one who assimilates it. It is exchanging knowledge between and among individuals, and within and among teams, organizational units and organizations.

Knowledge sharing among academics stimulates new ideas and innovations. It promotes understanding between and among colleagues, students' professionals, and enhances and facilitates access and sharing of valuable information that provides academic support in teaching and research. Lee, Hsieh & Ma (2011) in Mohammed (2016) buttressed that KS is about transferring or disseminating knowledge from academics, group, or organization to another via a medium. Technologies as a medium are evolving and adopted for knowledge sharing especially in the midst of covid-19 pandemic and beyond. These technologies include among others computers, blogs, wikis, PowerPoint, projector, and social media. To share knowledge effectively in this 21st century, the adoption of information and communication technology is encouraged.

Statement of the Research Problem

It has been asserted that a wide range of technologies and applications such as Intranets, knowledge portals, content, and document management systems, information retrieval engines, relational and object databases, electronic publishing systems, groupware and workflow systems, push technologies, help-desk applications, customer relationship management, data warehouse, data mining, business process reengineering, expertise networking, intelligent agents, conferencing, email, messaging, chat rooms, and knowledge creation applications have all been adopted at one time or another for knowledge management, knowledge sharing, teaching, and research (Abdurrahman, Mohammed, Abubakar and Mohammed 2020). However, as observed by the researcher, despite the available technologies provided for the knowledge sharing, academics in Ahmadu Bello University, Zaria are yet to effectively adopt ICT for knowledge sharing, which affect their primary function of teaching and engagement of research activities.

Research Questions

This study provides answers to the following research questions:

1. What type of ICT do the academics adopt for knowledge sharing in ABU Zaria, Nigeria?
2. What is the level of ICT literacy competence among academics for knowledge sharing in ABU Zaria, Nigeria?
3. To what extent the adoption of ICT by academics enhance knowledge sharing in ABU Zaria, Nigeria?

Literature Review

The development and availability of different types of ICT in today's tertiary institutions have not only increased and broadened the quality of teaching and learning but also placed more emphasis on ways on providing effective and efficient teaching and learning in our tertiary institution of learning most especially university system. The adoption of different types of ICTs have indeed continued to ease and promote quick and timely access, transfer, and dissemination of knowledge between academics and students in the university system, enhancing effective teaching and learning. Mohammed (2015) stressed that adoption of technologies to teaching, learning and researches could be influenced by the academics' characteristics, skills and experience in using the technology, the type of teaching and learning technologies available, the teaching and learning environment, the student's perceived usefulness and relevance of the technology in the learning and research process, the context of the subject area of study, the level of access and use of the technology among others.

Through the adoption of ICT, academics and students could extend and deepen their knowledge, investigation, and inquiry according to their needs and interest when accessing information from ICT. Sefollahi (2018) stated that ICT are technologies which facilitate sharing knowledge and information, thus, have a prominent role on knowledge management initiatives because the impact of information technology depends on the skills of the persons on the use of the technologies, the availability of information and communication technologies and accessible and easier to use the technologies.

Abdurrahman, Shafi'u, Muhammed & Liman (2018) stressed that ICT literacy skills enable understanding required by people on meaningful use of ICT appropriate to their needs so that information needs could be solved. Sani (2017) stressed that Information and communication technology literacy skills enable an individual to use computers, software applications, databases and other technologies to achieve a wide variety of academic, work-related, and personal goals. The skills enable academics to share, process, manage, and transfer knowledge to benefit the university system. Thus, there is a need to integrate ICTs into the university system's teaching fully and learning process. Abdurrahman (2021) and Nguyo, Kimwele and Guyo, (2015) stressed that ICT tools have variability in knowledge sharing and serve as a quick way to communicate with other employees and also quick knowledge references that enhance the quality of knowledge shared and also affects knowledge sharing processes in institutions and organization.

Methodology

The research is quantitative and specifically cross-sectional survey design been a systematic and comprehensive collection of information that reflects the opinions, attitudes, feelings, beliefs and behaviors of people on an issue quantitatively. The population of the study comprises of all the academics in Ahmadu Bello university, Zaria, Nigeria, totaling 2,201. Because the population was large, 10% was used which is 220. This is in line with Neuman (2006) who stated that a researcher could choose 10% of the population that is in thousands. The research instrument used for collecting data was questionnaire. It was used due to its advantages as recommended by Aina (2004) that, questionnaire as an instrument for data collection was used in descriptive or survey research as it is more economical in terms of time, effort and money.

Result and Discussion

Table 1: Response Rate

S/N	Distribution of Academics	Questionnaire Distributed	Questionnaire Returned	%
1	Professorial Cadre	69	31	14%
2	Senior Lecturer Cadre	34	21	10%
3	Lecturer I-Assistant Lecturer	117	89	41%
Total		220	141	65%

From the 220 copies of the questionnaire distributed to the academics in the University studied, 141 copies (65%) were duly completed, returned and found useful for the research. The response rate of the respondents by their status as presented in table 1.

Table 2: Types of ICT Adopted for Knowledge Sharing by Academics

S/n	Types of ICTs	Ahmadu Bello University, Zaria					
		Professorial Cadre		Senior Lecture Cadre		Assistant Lecturer-Lecturer I	
		Freq	%	Freq	%	Freq	%
1	Computer	22	70.1	19	90.5	76	85.4
2	Handheld	12	38.7	9	42.9	35	39.3
3	Projector	14	45.2	11	52.4	60	67.4
4	Smart board	10	32.3	7	33.3	47	52.8
5	Teleconferencing facilities	8	25.8	4	19.0	14	15.7
6	Video conferencing facilities	6	25.8	5	23.8	46	51.7
7	Digital Camera	6	25.5	7	33.3	29	32.6
8	Scanner	15	48.4	9	42.9	44	49.4
9	Printer	21	67.7	12	57.1	50	56.2
10	Videos	14	45.2	8	38.1	42	47.2
11	Internet	20	64.5	16	76.2	64	71.9
12	Power point	18	58.1	11	52.4	59	66.3
13	You tube	6	25.8	13	61.9	46	51.7
14	Email	22	70.9	16	76.2	57	64.0
15	E books	12	38.7	10	47.6	43	48.3
16	Webcam	4	12.9	3	14.3	21	23.6
17	Social media	7	22.6	12	57.1	56	62.9
18	CD-ROM	22	70.9	19	90.5	76	85.4
19	Modem	12	38.7	9	42.9	44	49.4
20	Public Address System	4	12.9	11	52.4	60	67.4

Table 2 showed that computer, printer, Internet, projector, PowerPoint, video conferencing facilities, Email, CD-ROM, Handheld devices were the type of major information and communication technologies adopted among assistant lecturer to lecturer 1 cadre with over 50% responses. However, a careful look at table 4.1 showed that the respondents at the cadre of senior lecturer did adopted computer, printer, Internet, projector, PowerPoint, YouTube, Email, CD-ROM and public address system

for knowledge sharing with above 50% responses. For the professorial cadre, computer, printer, internet, PowerPoint, Email, CD-ROM were the type ICTs adopted for knowledge sharing with above 50%.

A careful look at table 2 showed that out of the twenty (20) ICT facilities adopted for knowledge sharing in the university studied, it was the responses of assistant lecturer to lecturer 1 that have responses of twelve items responded with above 50% which indicated that there is serious adoption of the ICTs facilities by this level of academic staff within the universities in sharing knowledge, but responses of senior lecturers and professorial cadre have their responses not up to that of their counterpart. The table further revealed that teleconferencing facilities, handheld devices, Modem and webcam were the least type of ICTs adopted for knowledge sharing in the university. This finding is in variance with the finding of Fari (2015) that stated ICT facilities such as World Wide Web, Face book, Twitter, YouTube, video and teleconferencing are catalysts for Knowledge sharing. The above finding implies that unless ABU Zaria will provide ICTs infrastructure and adopted by academics, effective sharing of knowledge in today's knowledge era will continue to be a challenge, which will continue to affect teaching and research.

ICTS	Responses on Level of ICT literacy competency on knowledge sharing																		Averages					
	VC			C			PC			NC			U			Total			MEAN			SD		
	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL
Computer	13	7	46	9	8	20	4	2	17	2	3	1	3	1	5	31	21	89	3.87	3.86	4.13	0.28	0.45	0.82
Handheld	12	8	38	10	7	28	4	2	9	2	3	7	3	1	7	31	21	89	3.84	3.76	3.93	0.29	0.44	0.09
Projector	9	6	35	13	9	31	3	1	8	3	5	10	3	0	5	31	21	89	3.71	3.81	3.91	0.28	1.24	0.10
Smart board	4	7	46	9	8	20	3	2	17	13	3	1	2	1	5	31	21	89	3.00	3.76	4.13	0.44	0.45	0.82
Teleconferencing facilities	3	6	6	3	9	8	3	2	9	13	3	28	9	1	38	31	21	89	2.29	3.86	2.06	0.70	0.45	0.33
Video conferencing facilities	13	8	38	9	7	28	4	2	9	2	3	6	3	1	8	31	21	89	3.87	3.81	3.92	0.28	0.44	0.11
Digital Camera	12	7	28	10	8	28	4	2	19	2	3	8	3	1	6	31	21	89	3.84	3.76	3.72	0.29	0.45	0.04
Scanner	3	6	28	3	9	38	3	2	9	13	3	8	9	1	6	31	21	89	2.29	3.86	3.83	0.70	0.45	0.09
Printer	13	8	38	9	7	28	4	2	9	2	3	6	3	1	8	31	21	89	3.87	3.71	3.92	0.28	0.44	0.11
Videos	12	7	14	10	8	9	4	1	38	2	3	8	3	2	20	31	21	89	3.84	3.90	2.88	0.29	1.19	0.17
Internet	9	9	46	13	6	20	3	2	17	3	3	1	3	1	5	31	21	89	3.71	3.86	4.13	0.28	0.44	0.82
Power point	9	9	45	13	5	21	3	3	17	3	3	2	3	1	4	31	21	89	3.71	3.19	4.13	0.28	0.19	0.37
You tube	4	4	38	9	4	28	3	7	9	13	4	6	2	2	8	31	21	89	3.00	4.05	3.92	0.44	0.40	0.11
Email	13	9	44	9	6	22	4	4	16	2	2	2	3	0	5	31	21	89	3.87	3.76	4.10	0.28	0.19	0.37
E books	4	6	25	9	9	31	3	2	18	13	3	10	2	1	5	31	21	89	3.00	2.86	3.69	0.44	0.45	0.03
Webcam	9	4	35	13	3	31	3	3	8	3	8	10	3	3	5	31	21	89	3.71	4.19	3.91	0.28	0.49	0.10
Social media	13	7	41	9	7	25	4	7	14	2	2	3	3	0	6	31	21	89	3.87	3.90	4.03	0.28	0.24	0.23
CD-ROM	13	7	41	9	6	25	4	7	9	2	1	8	3	0	6	31	21	89	3.87	2.86	3.98	0.28	0.71	0.08
Modem	9	4	35	13	3	31	3	3	8	3	8	10	3	3	5	31	21	89	3.71	2.93	3.91	0.28	0.49	0.10

Table 3 presented the respondents' responses to the level of ICT literacy competencies use for knowledge sharing among academics. It can be deduced from the Table that ICT literacy competencies with average mean score of 3.80 and above for all the academics at Professorial cadre was competency on the use of computer, handheld devices, projector, digital camera, printer, CD-ROM, Email. Similarly, ICT competencies for senior lecturers' cadre with the average mean of 3.80 up to 4.19 was in the computer, projector, video conferencing facilities, videos, Internet, YouTube, Email, Webcam, Social media and CD ROM. As for the lecturer I down to Assistant lecturers' cadre, it can be deduced that their ICT literacy competencies level was on the use of the computer, handheld devices, projector, Smart board, scanner, printer, Internet, PowerPoint, YouTube, Email, Webcam, Social media, CD ROM and MODEM with the average mean score of 3.80 up to 4.13. Thus, the academics ICT literacy competencies were high and this could affect knowledge sharing among the academics in the university especially in the aftermath of the covid-19 pandemic that require effective adoption of ICT. Having knowledge, skills and competencies on adopting the ICTs enhance their teaching and research activities efficiently and effectively among the academics if knowledge was shared using information and communication technology. This will improve the sharing of knowledge among peers and students as well in the university. This finding agrees with that of Oguche (2017) who revealed in an earlier survey on the impact of ICT Literacy competencies that ICT competence of the academics in Nigerian universities was high at younger academics and moderate at the senior academics.

The academics' ICT literacy competencies with an average mean of below 3.50 at professorial cadre was the smart board, teleconferencing facilities, scanner, YouTube, E-books, Webcam, and social media CD-ROM & Modem. The respondents seem to have low ICT literacy competencies among all the academics in the university because the average mean was below 3.50, which would affect the application of ICTs for knowledge sharing. The finding agrees with the discovery of Fari (2015) who in an earlier survey on the application of ICTs for knowledge and information sharing who discovered that academics ICT literacy competencies on the area of teleconferencing facilities, you tube, Smart board were below average. Whereas at the senior cadre, competencies on ICTs with mean score of below 3.50 were in the areas of CD-ROM, E-books, PowerPoint, teleconferencing facilities among others.

The study further showed that as for the lecturer 1 and below, out of twenty (20) ICT facilities listed, ICT literacy competencies that was below 3.50 was only in the area of videos and use of teleconferencing facilities. This finding supported the result of Liaquat (2021) if educators possess low ICT skills, it is invariably shows that their knowledge sharing practices will not be effective, thus, ICT skills of the lecturer are essential for knowledge sharing practices in the 21st century. This means that a lot of training and retraining is needed for the top scholars to equip themselves with the necessary skills and competencies to cope with the reality of the 21st-century digital world especially in this post-COVID-19 era.

Options	**Table 4 Extent to which Adoption of ICT Enhance Knowledge Sharing Among Academics**																		Averages					
	Major Effect			Effect			Less Effect			No Effect			Undecided			Total			MEAN			SD		
	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-AS	PC	SLC	LI-ASL	PC	SLC	LI-ASL	PC	SLC	LI-ASL
Wide distribution and of easy access to information	13	7	41	9	7	25	4	7	14	2	2	3	3	0	6	31	21	89	3.87	4.19	4.03	0.28	0.34	0.23
Enhance cooperative learning	9	4	35	13	3	31	3	3	8	3	8	10	3	3	5	31	21	89	3.71	2.86	3.91	0.28	0.51	0.10
Deepen ones knowledge	3	6	28	3	9	38	3	2	9	13	3	8	9	1	6	31	21	89	2.29	3.76	3.83	0.40	0.45	0.09
Enables working together irrespective of location	13	7	46	9	8	20	4	2	17	2	3	1	3	1	5	31	21	89	3.87	3.81	4.13	0.28	0.16	0.31
Deepen inquiry according to individual needs	3	6	28	3	9	38	3	2	9	13	3	8	9	1	6	31	21	89	2.29	3.76	3.83	0.70	0.45	0.09
Increasing collaboration with other tertiary faculty members	13	8	38	9	7	28	4	2	9	2	3	6	3	1	8	31	21	89	3.87	3.86	3.92	0.28	0.44	0.11
Enhance electronic research activities in universities	13	7	46	9	8	20	4	2	17	2	3	1	3	1	5	31	21	89	3.87	3.81	4.13	0.28	0.45	0.82
Wide distribution of research findings	12	8	38	10	7	28	4	2	9	2	3	7	3	1	7	31	21	89	3.84	3.86	3.93	0.29	0.44	0.09
There is a growth in personality	3	6	6	3	9	8	3	2	9	13	3	28	9	1	38	31	21	89	2.29	3.76	2.06	0.70	0.45	0.33
Enhance job performance	13	7	41	9	7	25	4	7	14	2	2	3	3	0	6	31	21	89	3.87	4.19	4.03	0.28	0.24	0.23
Bring about knowledge production	13	7	46	9	8	20	4	2	17	2	3	1	3	1	5	31	21	89	3.87	3.81	4.13	0.28	0.45	0.82
Accomplishing of tasks more quickly	13	7	46	9	8	20	4	2	17	2	3	1	3	1	5	31	21	89	3.87	3.81	4.13	0.28	0.12	0.82
Improves knowledge acquisition	3	6	28	3	9	38	3	2	9	13	3	8	9	1	6	31	21	89	2.29	3.76	3.83	0.70	0.45	0.09
Enhancing accessibility to information	13	8	38	9	7	28	4	2	9	2	3	6	3	1	8	31	21	89	3.87	3.86	3.92	0.28	0.21	0.56
Enabling sharing area of common interest	9	9	45	13	5	21	3	3	17	3	3	2	3	1	4	31	21	89	3.71	3.86	4.13	0.28	0.19	0.37

From Table 4, it can be deduced that all the academics in the university recorded average mean score of above 3.50 in wide distribution and easy access to information, deepens once knowledge, enables working together irrespective of locations, increase collaboration with other tertiary faculty members, the accomplishment of tasks more quickly, improvement of knowledge acquisition and enabling sharing of common interest among the three cadres of academics in university studied. This means that there is a high benefit in adopting ICTs in terms of knowledge sharing among academics in the University. However, other benefits of adopting ICTs that have low significant effect on the adoption of ICTs for knowledge sharing were those with an average mean scores of below 3.50 to enhance cooperative learning, deepen inquiry according to individual's needs, increase collaboration with other faculty members, enhance electronic research activities in universities, the wide distribution of research findings, enhancement of job performance, improvement of knowledge acquisition, enhance access to information and enables sharing of knowledge in areas of common interest among the academics at senior lecturers and lecturer I to assistant lecturer cadre.

Looking at Table 4 critically, one would notice that respondents at professorial cadre were those that were having mean score of below 3.50 growth in personality, deepens inquiry according to individuals need and brings about knowledge production, had significant benefit in the adoption of ICTs for knowledge sharing. As for the senior lecture's cadre based on the options provided, they were said to have significant benefit on the adoption of ICTs for knowledge sharing only in options provided in growth in personality and enhancement of cooperate learning the university with the mean score of below 3.50.

Thus, it can be argued from the preceding discovery that, the benefit of adopting ICTs among the three levels of academics in the university studied had serious benefits on knowledge sharing based on the average mean score of above 3.50 especially at senior lecturers and lecturer I to assistant lecturers cadre. The implication of the finding could be seen in the study of Nguyo, Kimwele and Guyo, (2015) who revealed out that ICT tools have variability in knowledge sharing and serve as a quick way to communicate with other employees and also quick knowledge references that enhance the quality of knowledge shared and also enhances knowledge sharing in organizations.

Summary of the Major Findings

Based on the data collected and analyzed for this study, the following are the major findings:

1. The types of ICTs adopted for knowledge sharing among academics are computers, printers, Internet, projector, PowerPoint, email, CD-ROM, handheld devices, in the university.
2. The level of ICT literacy skills competence among academics was high in computer, handheld devices, digital camera, printer, Internet, Email. The academics at lecturer I-assistant lecturer cadre had the highest ICT competence literacy among all three academic levels in the university.
3. The findings also revealed that adopting ICTs had serious benefits on the areas of easy access to information, enabling working together irrespective of location;

deepen inquiry according to individual needs, and wide distribution of research findings for knowledge sharing among academics in the university.

Conclusion

From the results and discussion of the findings, it could be concluded that academics in the ABU Zaria have to some extent at certain level, endeavored to adopt Information and Communication Technology in their effort to share knowledge in carrying out their primary function of teaching and research especially academics at lower levels. It would be for the betterment of the university to deploy other ICTs gadgets needed especially in this post Covid 19 era even if is looking for donor agencies to support them in providing adequate ICTs infrastructure and continue giving training and retraining to academics especially at senior lecturers' level and above so that they go with the 21st-century trends of sharing knowledge in the course of their duties using ICT facilities.

The following are recommended based on the findings of this study:

1. There is an urgent need for the increased provision of ICT facilities to the university especially smart boards, e-books, teleconferencing and video conferencing facilities free to academics, coupled with the provision of viable Internet provision so that academics could facilitate knowledge sharing easily during their routine academic activities**.**
2. Employing only academics with ICT literacy skills should be a policy to employ academic staff in university. This would go a long way in the academics applying the ICTs infrastructures recommended for the university. Also, to the academics that are already in the system, training and retraining on the application of these facilities should be given so that university studied will go in line with the global trends in terms of sharing knowledge especially in this post Covid-19 era.

References

Abdurrahman, J., (2021) Effect of Information and Communication Technology Application on Knowledge Sharing among Academics in Selected Universities in the Northern States of Nigeria. Unpublished Thesis Submitted to the School of Postgraduate Studies, Ahmadu Bello University, Zaria

Abdurrahman, J., Mohammed, Z., Abubakar, T. & Mohammed, H., (2020), Information and Communication Technology Literacy Competency for Knowledge Sharing among Academics in Selected Universities in Northern States of Nigeria, Nigeria, Nigerian Libraries, Journal of Nigerian Library Association.

Abdurrahman, J. Shafi'u, S. Muhammed, J. & Liman, A.S., (2018), Assessment of Digital Literacy of Academic Librarians in Ahmadu Bello University Library Complex A.B.U. Zaria, Nigeria, *Nigerian Libraries Journal of Nigerian Library Association.*

Aina L.O., (2004). Library and Information Science Text for Africa. Ibadan: Third World Information Service Limited.

Davis, F., D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology.*MIS Quarterly. Vol. 13*(3), pp. 319– 339

Fari, S. A. (2015). Comparative Assessment of Information and Knowledge Sharing Among Academics in Nigeria and South Africa. Unpublished Thesis Submitted to Library and Information Science, University of Zulu Land, South Africa. Retrieved July 2017 via http://www.uzulu.ac.za

Oguche, D. (2017) Impact of Information and Communication Technology (ICT) Literacy Competence on Job Performance of Librarians in Federal University Libraries in Nigeria, *The Information Technologist* Vol 13. No.1 June 2017

Onifade . F. N.(2015, Knowledge Sharing among Librarians in Federal University Libraries in Nigeria, Retrieved via https://iiste.org/Journals/index.php/IKM/article/view/20587

Nguyo, P. M., Kimwele, M. W. & Guyo, W. (2015). Influence of ICT on knowledge sharing in state corporations in Kenya: A case of the Kenya National Library Service. *International Academic Journal of Information Systems and Technology, 1* (4), 1-21

Neuman, W. L. (2006). Social Research Methods: Qualitative and Quantitative Approaches, (6th ed.).Boston: Pearson Education.

Patrick, O.G., Edward T.A., & Isadore N.A. A. (2015). The Use of Information and Communication Technology (ICT) for Knowledge Management in the Second

Cycle Educational Institutions in Ghana. International Journal of Computer Applications(e-journal). 1443. http://digitalcommons.unl.edu/libphilprac/144

Lee, Y. H., Hsieh, Y. C., & Ma, C. Y. (2011). "A model of organization employees' E-learning systems acceptance". Knowledge-Based Systems 24, 355–366.

Liaquat, A. R. (2021) Impact of ICT Skills for Knowledge Sharing among Library Professional of Higher Education Institutions of Pakistan, Retrieved on 16th July 16, 2024 via Library Philosophy and Practice University of Nebraska – Lincoln via http://digitalcommons.unl.edu.libphilprac

Linden, R. & Adams, S. (2009), "Technological change: its effects on the training and performance of older employees, in Gomez-Mejia, L. and Lawless, M. (Eds.), *Advances inGlobal High-Technology Management*, JAI Press, Greenwich

Sefollahi, N. (2018), The Importance Of ICT On Knowledge Management In Organizations *Journal of Fundamental and Applied Sciences* retrieved via doi: http://dx.doi.org/10.4314/jfas.v10i2.31