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Impact of ICT Skills for Knowledge Sharing among Library Professional of Higher Education Institutions of Pakistan

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Abstract

The purpose of the study explores the impact of ICT skills for Knowledge sharing among library professional of Higher Education Institutions of Pakistan. Descriptive survey design study was adopted in the study. The population of the study was librarians who are working in the higher education institutions of Pakistan. Simple sample technique was used for data collection 180 was sample size. Questionnaire was used as instrument for primary data collection from selected respondents.SPSS application was used for data analysis with descriptive statistics of frequency counts and mean score. The result reveals a total agreement by majority of the respondents on the possession of numerous ICT skills as the grand mean equals 2.69. This acceptance is as a result of the grand mean score being higher than the criterion mark of 2.5 set for the study. The respondent's on sources of ICT. This agreement is so, based on the fact that the study scored a grand mean above the criterion mean which is 2.71. Result of the respondents on the adoption of different and numerous methods/patters for knowledge sharing with a grand mean of 2.97. Result gotten from the study on this reveals a total agreement by majority of the respondents on the effects of ICT skills on knowledge sharing practices with a grand mean of 3.48. The result reveals a total agreement response by majority of the respondents on the factors that influences use of ICT in knowledge sharing. This agreement response was as a result of the study having a grand mean score of 3.19, which is above the criterion mean set for the study.

Keywords: ICT Skills, Knowledge Sharing, Higher education's institutes, library professionals.

Introduction

The bulk of academic business revolves round the process and practices of knowledge sharing. In this process,the educator is in one end sharing the knowledge, whereas the learner is on the other end receiving theknowledge. Knowledge sharing manifest in diverse ways such as the lecturer to the students, the teacher to thepupils, the master to the apprentice, the parents to the children, the presenter to the audience, and the superior tothe sub-ordinate. Whichever way it manifests, the main thing is that knowledge is being shared. It is important tounderstand that knowledge sharing do not only come from up to down, but can as well be from down to up. Thisis to say that in every human, there is an atom of knowledge which could be shared for the benefit of thereceiver.

In the words of Nnadozie (2016), knowledge is a basic component of people's intellectual asset, which is madeup of skills, experiences, ideas, intellect, expertise and intuition, which become evident when value has beenadded to information through processing. In a more detailed ancient definition, Leonard &Sensiper (1998)

described knowledge as value-added information that is relevant, actionable and based, to a large extent, onexperience. Knowledge could also be interpreted to mean a fluid mix of framed experiences, values, contextual information and expert insight that provide a framework for evaluating and incorporating new experiences andinformation. Knowledge originates and is applied in the mind of the knower. In the organizational setting, it isoften embedded not only in documents or repositories but also in organizational routines, processes, practices and norms (Nnadozie 2016).

Knowledge sharing involves patterns and methods. The pattern and method to be adopted largely depends on theexperiences and skills of sharer as well as the environment, the receivers/audience, among other factors. Thesemethods could be through personal conversation, teaching in the classroom, preaching in the religious settings,presenting papers in conferences and seminars, undertaking radio/television program, parents at home, andlots more. However, the focus of this study is on methods applied in the academic setting. The effectiveness ofthe method/pattern adopted in knowledge sharing could be anchored on issue of time and energy exerted in theprocess. Some believe that when one has not spent much energy, he/she is in the best place to share knowledgeeffectively, some would attest to the fact that the comfort of the environment determines the effectiveness ofknowledge sharing practices, which could be enhanced by application of information and communication technologies and skills.

Consequently, librarianship is one of the professions that have tested different technologies in the course of itsmetamorphosis, not only in the practicing profession but also in the teaching profession. This is so because, Nnadozie (2016) holds that LIS education was founded, and still thrives, on inculcating into man, the ability tomake and manage records. Hence, the technology for the creation, organization, preservation, management anddissemination of this record has been of interest in the LIS education as well as practice of librarianship. Eachgeneration of LIS educators has had to respond to the need to fashion basic technological tools to ply their trade.The response to this could be seen in the acquisition of technological skills (ICT-related) as well as itsapplication in the knowledge sharing practices.

Although ICTs emerged in the 20th Century, the popularity of this phenomenon in LIS education amplyunderscores its importance both in the educators, library workers, and the library students. ICTs have effectsbeyond librarianship and other disciplines concerned with information management, and have become central tothe management of knowledge assets in other organizations. Besides, people engaged in different economic,administrative, political, entrepreneurial, and academic enterprises adopt information technologies to achievetheir respective purposes, LIS educators, inclusive. This leaves no doubt that ICTs and possession of ICT skillsare not only vital to knowledge sharing, but also contribute immensely to the advancement of human society.

Literature Review

Osunade*et al.* (2007) studied knowledge sharing amongst academics and found out that technology and humanresources are central to knowledge sharing. This is where the ICT and its skills come in. ICT, a part of thetechnology, is simply an acronym for

Information and Communications Technology. It captures the variouselectro-mechanical devices used in information handling (Nnadozie 2016). ICTs refer to the aggregate ofcomputers and their accessories, telecommunications equipment, multimedia, and all other associatedtechnologies applied in information organization, management and dissemination. However, Goswami (2015)noted the expansive nature of ICT and described it as an overarching and generic term for the various digitaltechnologies used for manipulating information.

Consequently, the field of education has been affected by ICTs, which have undoubtedly affected teaching,learning, and research (Yusuf 2005) as well as the overall processes of knowledge transfer and receipt. ICTshave the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage educators and theirstudents or any other category of persons that engage in knowledge sharing (Yusuf 2005). Jhurree (2005) statedthat much has been said and reported about the impact of technology, especially computer-enabled devices incommunication practices. These computers and applications of technology became more pervasive in societywhich led to a concern about the need for computing and ICT skills in everyday life.

Amua-Sekyi&Asare (2016) conducted a survey on the ICT literacy among lectures and found out thepossession of Internet accessing skills, word processing skills, email sending skills, presentation skills, database searching skills, among other skills. According to Amua-Sekyi&Asare (2016), surfing the Internet forinformation will make the educator's' job easy and engender the establishment of connections with globaleducation, word processing skills and ability to communicate through emails give the educators the capability toeasily create and produce documents relevant to their teaching requirements, as well as offer high versatility andflexibility, and lecturers can use it to support any kind of directed instruction. The study further revealed thatICT skills is of immense effects to the educators/lecturers as it enable them to save time in creating or modifyingmaterials to be used in teaching, create documents that are more appealing to students, among other numerousbenefits.

On how educators develop skills to enable them use the ICTs for knowledge sharing, Archibong, Ogbiji&Anijaobi-Idem (2010) study on the ICT competence among academic staff in universities in Cross Rivers State,Nigeria found that 268 (89.3%) of academic staff funded any form of ICT development training they haveundertaken, while only 32(10.7%) academic staff have received assistance from the University in ICT–relateddevelopment training. Furthermore, the study by the authors revealed that majority (53.3%) rated their ICTcompetence as low which according to the respondents is based on inadequate ICT facilities, excess work loadand funding. Recommendations made to include funding of ICT training of academic staff by the universitymanagement and making ICT training mandatory for all academic staff. Hepp*et al.* (2004) claimed in theirpaper that ICTs have been utilized in knowledge sharing ever since their inception, but they have not alwaysbeen massively present in the process of teaching in most educational institutions in Nigeria. Furthermore, it isimportant to understand that the bulk of the knowledge sharing activities of LIS educators is teaching. This is tosay that educating the students is one major means

through which LIS educators share their knowledge. ICT skillis therefore necessary for educators because higher education students are nowadays the digital natives (Prensky2001). The behaviour of these students is different compared to previous generations concerning the ways oflearning (Georgas 2013). Students, as digital natives are characterized by their digital fluency and desire to haveeverything on their phone or gadgets. They spend a great amount of time online and many are frequentlyconnected in social media.

Lekka&Pange (2015) are of the view that the social media are widely used for communication purposes amongthe academic community and also for teaching and learning. These media involve certain digital tools, such asGoogle, Facebook, Messenger, Instagram, YouTube, Edmodo and so on. Most of the lecturers in someuniversities are unfamiliar with some basic ICT tools, like email, Internet, video conferencing, word processing,etc. It is however important to assert that the Internet and other ICT gadgets have affected the library andinformation profession in all its dimensions (Nnadozie 2016). Among the areas they have affected include theway information is stored, retrieved and disseminated. ICT has made it possible that information and knowledgecan be packaged, repackaged and transferred to suit the way information is consumed by various people.

Creating videos is one of the ways in which LIS educators through ICT can package information to meet thedifferent ways in which their students consume information and also the information needs of distant students(Palmer, as cited in Gibbs 2015). Palmer further observes that the availability of Internet connectivity andtechnological tools like digital camera and smart phone has made Video (streaming) possible. Video streaming has enabled higher education institutions overseas to implement globalization strategy of reaching out to widerstudents without regional barriers. The author observes that the use of video streaming for knowledge sharing inhigher institutions is more cost effective, time effective and sustainable method of teaching and learning.

A number of challenges have been observed to militate against the application of ICT in knowledge sharing.According to Osakwe (2012), acquisition, deployment and management of information technology resources andservices for teaching depend on electricity. Studies have shown that poorly maintained equipment and poornetwork infrastructure are prominent obstacles to the integration of ICT tools in classroom knowledge sharingpractices. A number of educators today have never used computers in their lives and they are terribly shy whenthey are confronted with this new technology and the terminology associated with using them. Sentlowitz (ascited in Ajegbelen 2016) observed that inadequate technology infrastructure, lack or inadequate power supplyand unsteady Internet access, lack of training, funds, skilled and experienced lecturers in multimedia creationand knowledge of video creation tools as well as lack of support from curriculum decision makers can create abig huddle in teaching video creation. Ajegbelen (2016) submits that low digital fluency of faculty andinappropriate technological experience are some of the challenges facing adoption of ICT for knowledge sharing. He explains that many librarians/lecturers in higher institutions do not come from technological background,

thus there isalways a generational gap between the technological capability of the lecturer and that of their students.

Research Objectives
- To identify the ICT skills possessed by Library Professionals.
- To ascertain the sources of ICT skills of Library Professionals.
- To find out various methods/patterns adopted by Library Professional for knowledge sharing.
- To determine the effect of Library Professional's ICT skills in their knowledge sharing practices.
- To uncover the factors influencing knowledge sharing by Library Professional.

Methodology

Descriptive survey design study was adopted in this research. The population of the study was librarians who are working in the higher education institutions of Pakistan. Simple sample technique was used for data collection 180 was sample size. Questionnaire was used as instrument for primary data collection from selected respondents. . A 4-point researcher-made instrument titled: "Questionnaire on ICT Skills and Effective Knowledge Sharing" (QISEKS) was used to generate raw data for the study. The researchers personally distributed copies and design Google form email to every respondent. SPSS application was used for data analysis with descriptive statistics of frequency counts and mean score. Data collected were analyzed using descriptive statistics of frequency counts and mean score. A four point scale method involving Strongly Agree (SA); Agree(A); Disagree (D); and Strongly Disagree (SD), was used to determine the degree of agreement or otherwise ineach of the item statements. The criterion mean of 2.5 was used, which indicated the level of agreement ordisagreement. In this, any mean score less than 2.5 was considered disagreed, whereas items with mean sores 2.5and above were considered agreed. Presentation of results was done through the use of frequency tables.

Result and Discussion

1. **Library Professionals on ICT Skills Possessed**

S/No	Item Statement	Mean	Decision
1	Web navigation skills	3.39	Agreed
2	Software manipulation and use skills	2.00	Disagreed
3	Social media utilization skills	3.44	Agreed
4	E-mail management skills	3.00	Agreed
5	Videoconferencing skills	2.11	Disagreed
6	Electronic presentation skills	2.89	Agreed
7	Word processing skills	3.00	Agreed
8	Websites Teaching Skills	2.17	Disagreed
9	File Management & Windows Explorer Skills	2.94	Agreed
	Grand Mean	**2.69**	**Agreed**

Table 1: Library Professionals on ICT Skills Possessed

Table 1: The result reveals a total agreement by majority of the respondents on the possession of numerous ICT skills as the grand mean () equals 2.69. This acceptance is as a result of the grandmean score being higher than the criterion mark of 2.5 set for the study. A further breakdown of the result showsthat majority of the respondents, agreed on the possession of ICT skills such as: Social media utilization skills (with a of 3.44); web navigation skills (with a of 3.39); e-mail management skills (with a of 3.00); wordprocessing skills (with a of 3.00); file management & windows explorer skills (with a of 2.94); and electronicpresentation skills (with a of 2.89). Other respondents with mean scores of 2.00, 2.11, and 2.17 disagreed with the possession of software manipulation and use skills, video conferencing skills, and Website teaching skills, respectively.

This result is in agreement with the work of Sekyi&Asare (2016) which revealed the possession of number of skills, such as: Internet accessing skills, word processing skills, emailsending skills, presentation skills, and database searching skills, among other skills. However, the absence or lowpossession of ICT skills such as software manipulation and use skills, videoconference skills, and Website teaching skills could hinder the effective transfer of knowledge through lecturing or software communication.

2. **Library Professional on Sources of ICT Skills**

S/No	Item Statement	Mean	Decision
10	Through online tutorials	2.00	Disagree
11	From colleagues	2.89	Agreed
12	Registering for computer lessons	1.94	Disagree
13	Personal reading/research	3.28	Agreed
14	Visiting Internet/cyber cafes	3.17	Agreed
15	Acquiring degrees/certificates in ICT-related courses	1.94	Disagree
16	Attending seminars/conferences	3.28	Agreed
17	Hiring ICT specialists	3	Agreed
18	Visiting digital libraries	2.78	Agreed
19	Self-learning and/or everyday practice	2.78	Agreed
	Grand Mean	**2.71**	**Agreed**

Table 2: Library Professional on Sources of ICT Skills

Table 2: The result indicates a total agreement by majority of the respondent's onsources of ICT. This agreement is so, based on the fact that the study scored a grand mean above the criterionmean which is 2.71. A further analysis of data per item statement shows that the majority of the respondents thatconstitute mean scores and standard deviation of 3.28, 3.28, 3.17, 3.00, 2.89, 2.78, and 2.78 agreed with theacquisition of ICT skills through personal reading/research, attending seminars/conferences, visitingInternet/cyber cafes, hiring ICT specialists, from colleagues, visiting digital libraries, and self-learning and/oreveryday practice, respectively. Furthermore, majority of the Library professional disagreed with sources such as: registering for computer lessons (with a of 1.94), acquiring degrees/certificates in ICT-related courses (with a of 1.94), and through online tutorials (with a of 2.00). It could be seen from the result of this present study that library professional put in much personal efforts in the quest to acquire ICT skills. These personal efforts range but not limited to personal reading/research, attending seminars and conferences to hiring ICT specialists, among other numerous personal efforts.

This finding agrees with the work of Archibonget al. (2010) which found that 268(89.3%) of academic staff fundedany form of ICT development training they have undertaken, while only 32(10.7%) academic staff have received.assistance from the University in ICT–related

development training. This is because majority of the sources ofICT skills acquisition by LIS educators is personally motivated.

3. Methods/ Patterns Adopted for Knowledge Sharing

S/No	Item Statement	Mean	Decision
20	Through lectures	3.44	Agreed
21	Delivering/presenting papers at conferences	3.28	Agreed
22	Personal interactions	3.33	Agreed
23	Sending e-mails and private messages	3.06	Agreed
24	Use of Facebook timeline messages and other social media platforms	3.33	Agreed
25	Use of radio/television programs	2.39	Disagreed
26	Use of audio/video clips and recordings	2.22	Disagreed
27	Video/audio conferencing	2.28	Disagreed
28	Use of meetings and other gatherings	3.39	Agreed
	Grand Mean	**2.97**	**Agreed**

Table 3: Methods/ Patterns Adopted for Knowledge Sharing

Table 3:

The result reveals a total agreement by majority of the respondents on theadoption of different and numerous methods/patters for knowledge sharing with a grand mean () of 2.97. This agreement is as a result of the grand mean score being higher than the criterion mean of 2.5 set for the study.

A further breakdown of the result shows that the respondents agreed with the methods/patterns such as: through lectures (with a of 3.44); use of meetings and other gatherings (with a of 3.39); personal interactions (with aof 3.33); use of Facebook timeline messages and other social media platforms (with a of 3.33); delivering/presenting papers at conferences (with a of 3.28); and sending e-mails and private messages (with aof 3.06). However, other respondents disagreed with methods/patterns such as: use of audio/video clips and recordings (with a of 2.22); video/audio conferencing (with a of 2.28); and use of radio/television programs (with a of 2.39).

Consequently, the acceptance of six (6) out of nine (9) methods being investigated, is a strong indication that the methods/patterns adopted by library professional for knowledge sharing is not only limited to one pattern. Theacceptance of methods/patterns such as use of Facebook timeline messages and other social media platforms, useof e-mails and private messages, among other method/patterns shows the adoption of ICT-enabled platforms for knowledge sharing by library professional. Similarly, the rejection of methods/patterns involving the use of radio/television programs, audio/video clips and recordings and video/audio conferencing could beattributed to the absence or low possession of videoconferencing skills as presented in item statement 5 in Table1. This is a strong indication that knowledge sharing skills has something to do with method/patterns adopted for knowledge sharing by library professional. This is in tandem with the study of Fullwoodet al. (2013) which revealed that academics engage in knowledge sharing when carrying out research, and teaching. The study argued that in general academics had positive attitudes and intentions towards knowledge sharing and they had ahigh level of expectation of some personal benefits or rewards as an outcome of their knowledge sharing.

4. Effects of library professional's ICT Skills on their Knowledge Sharing

S/No	Item Statement	Mean	Decision

29	Access to wider population	3.56	Agreed
30	Saving of time	3.28	Agreed
31	Saving of energy	3.5	Agreed
32	Brings about efficiency in communication	3.78	Agreed
33	Promotes proper understanding of knowledge shared	3.5	Agreed
34	Reduces stress	3.5	Agreed
35	Ensures effective utilization of knowledge	3.5	Agreed
36	Guides against misunderstanding/misinterpretation	3.5	Agreed
37	Makes for easy referral of knowledge passed/shared	3.22	Agreed
	Grand Mean	**3.48**	**Agreed**

Table 4: Result gotten from the study on this reveals a total agreement by majority of the respondents on the effects of ICT skills on knowledgesharing practices with a grand mean () of 3.48. This agreement is as a result of the grand mean score beinghigher than the criterion mean of 2.50 set for the study. A further breakdown of the result shows that therespondents agreed with the effects such as: brings about efficiency in communication (with a of 3.78); accessto wider population (with a of 3.56); saves energy (with a of 3.50); promotes proper understanding ofknowledge shared (with a of 3.50); reduces stress (with a of 3.50); ensures effective utilization of knowledge(with a of 3.50); guides against misunderstanding/misinterpretation (with a of 3.50); saves time (with a of (3.28); and makes for easy referral of knowledge passed/shared (with a of 3.28).

Consequently, the agreement of all the item statements in Table 4 as well as the scoring of 3.48 as grand mean isa strong indication that LIS educator's ICT skills play a great significant and positive role in their knowledgesharing practices. These effects which range from efficiency in communication to easy referral of knowledgepassed/shared are very vital in ensuring smooth and effective knowledge sharing among LIS educators. Thefinding agrees with the report of Sekyi&Asare (2016), which revealed that ICT skills areof immense effects tothe educators/lecturers as it enable them to save time in creating or modifying materials to be used in teaching, create documents that are more appealing to students, among other numerous benefits.

5. **Factors Influencing Acquisition of ICT Skills for Knowledge Sharing**

S/No	Item Statement	Mean	Decision
38	Inadequate ICT skills on the side of the educators	3.5	Agreed
39	The issue of technological obsolescence	3.22	Agreed
40	High cost of acquiring ICT skills	2.5	Agreed
41	Inadequate time to engage in ICT trainings	3.00	Agreed
42	Absence of quality ICT training programs	3.22	Agreed
43	Issue of ICT-knowledge at the receiving end being insufficient	3.5	Agreed
44	High cost of most ICT gadgets	3.00	Agreed
45	Most of the ICTs require much technical-know-how	3.28	Agreed
46	Atmospheric and weather conditions hinder effectiveness of some ICTs	3.5	Agreed
	Grand Mean	**3.19**	**Agreed**

Table 5: The result reveals a total agreement response by majority of the respondents on thefactors that influences use of ICT in knowledge sharing. This agreement response was as a result of the studyhaving a grand mean score of 3.19, which is above the criterion mean set for the study. Responses to specific item statements indicate agreement with all the item statements by majority of the respondents as each of theitem statements obtained mean scores above the criterion mean of 2.50. These factors, and their mean scores andstandard deviation include: inadequate ICT skills on the side of the educators (with a of 3.50); issues of ICTknowledgeat the receiving end being insufficient (with a of 3.50); atmospheric and weather conditions hindereffectiveness of some ICTs (with a of 3.50); most of the ICTs require much technical-know-how (with a of3.28); the issue of technological obsolescence (with a of 3.22); absence of quality ICT training programs (with a of 3.22); inadequate time to engage in ICT trainings (with a of 3.00); high cost of most ICT gadgets(with a of 3.00); and high cost of acquiring ICT skills (with a of 2.50).It could be deduced from the responses and findings of the study that availability and functionality of ICTgadgets (see item statements 39, 44, and 45), the atmosphere/environment of ICT application (see item statement46) as well as the receivers of this knowledge (see item statement 43), greatly influence the acquisition of ICTskills for knowledge sharing by library professional. These educators seem to be discouraged in their quest for ICTskills when considering the high cost of acquiring the training, high cost of the ICT gadgets, the state of theenvironment where these gadgets could be deployed for use, and the knowledge and reception of the users of thisknowledge if ICTs where used for the transmission of knowledge. The findings of these factors, among otherfactors agree with the work of Sentlowitz (2009), which revealed that inadequate technology infrastructure, lack or inadequate power supply and unsteady internet access, lack of training, funds, skilled and experiencedlecturers, as factors inhibiting acquisition of ICT skills for knowledge sharing.

Summary and Recommendation

From the findings of this study, it was concluded that ICT skills play a critical role in library professional knowledge sharing practices. The study has shown the different sources of ICT skills of library professional. Most of these sources arepersonally motivated and self-funded. However, the highly used method or pattern adopted for knowledge sharing by library professional include lectures and presentation of papers at conferences and seminars, among otherpatterns. If these educators possess low ICT skills, it invariably shows that their knowledge sharing practices willnot be effective. This study however concludes that ICT skills of the lecturer are essential for knowledge sharingpractices in the 21st century. Although these educators are faced with numerous challenges in an attempt toacquire ICT skills, adequate measures should be taken to overcome these challenges faced by the LIS educators.Based on the findings of this study, the researchers recommend the following:

1. Library professional should see the need to embrace ICT skills and application of ICT in their knowledgesharing practices. This will go a long way in ensuring their relevance and bringing efficiency andeffectiveness in communication.

2. On the other hand, university management should see it as a necessity and intensify efforts to fund the ICT training of library professional.

3. Furthermore, provision should be made for continuous retraining of library professional educators on ICT since development in technology is dynamic and the educators need to keep abreast with current trends.

4. University management should make training in ICT mandatory for all libraries professional as this will propel the uninterested or unwilling ones to undertake the training.

5. Finally, ICT facilities should be provided and its functionality ensured so as to improve academic staffaccess to it within the campuses. It is suggested that library professional should have a rethink towards ICTtraining and skills acquisition and make time to improve their competences irrespective of theirworkload.

References

- Ajegbelen, A.J. (2016), "The Use of ICT to Enhance University Education in Nigeria", *International Journal of Education, Learning and Development* **4**(5), 1-11.
- Amua-Sekyi, E.T. & Asare, P.Y. (2016), "A Survey of Information and Communication Technology Literacy among Lecturers", *Information and Knowledge Management* **6**(8), 1-7.
- Archibong, I.J., Ogbiji, J.E. & Anijaobi-Idem, F. (2010), "ICT Competence among Academic Staff in Universities in Cross Rivers State, Nigeria", *Computer and Information Science* **3**(4), 109-115.
- Bartol, K.M., & Srivastava, A. (2002), "Encouraging Knowledge Sharing: The Role of Organizational Reward Systems", *Journal of Leadership & Organizational Studies* **9**, 64-76
- Berge, Z.L. & Muilenburg, L.Y. (2001), "Obstacles Faced at Various Stages of Capability Regarding Distance Education in Institutions of Higher Learning", *Technological Trends* **46**(4), 40–45.
- Brynjolfsson, E. & Mcafee, A. (2014), "*The Second Machine Age* (1st ed.)", New York, W.W. Norton & Company.
- Cheng, M. Y., Ho, J. S. Y., & Lau, P. M. (2009), "Knowledge Sharing in Academic Institutions: A Study of Multimedia University. Malaysia", *Electronic Journal of Knowledge Management* **7**(3), 313-324.
- Elogie, A. A., & Asemota, A. E. (2013), "Knowledge Sharing Behaviour of Academics in the University of Ibadan, Nigeria", *PNLA Quarterly* **77**(4), 1-16.
- Enakrire, R.T & Uloma, N. G. (2012), "The Effect of Tacit Knowledge for Effective Teaching and Learning Processes among Lecturers at the Delta State University, Abraka", *Library Philosophy and Practice* (e-journal).
- Fullwood, R., Rowley, J., & Delbridge, R. (2013), "Knowledge Sharing amongst Academics in UK Universities", *Journal of Knowledge Management* **17**(1), 123-136.
- Georgas, H. (2013), "Google vs. the Library: Student Preferences and Perceptions when Doing Research Using
- Google and a Federated Search Tool", *Portal: Libraries and the Academy* **13**(2), 165-185.
- Gibbs, G. (2015), "Innovative Pedagogies Series: Video Creation and Reuse for Learning in Higher Education",UK, Higher Education Academy.
- Goswami, S. (2014), "ICT: Sustainable Development", *SCMS Journal of Indian Management,* (January -March), 125-133.
- Hepp, K. P., Hinostroza, S.E., Laval, M.E., & Rehbein, L. F. (2004), "Technology in Schools: Education, ICT and the Knowledge Society. *OECD Report*. Available at:www.worldbank.org/education/pdf/ICT_report_oct04a.pdf.
- Ipe, M. (2003), "Knowledge Sharing in Organizations: A Conceptual Framework*", Human Resource Development Review* **2**, 337-359.
- Jhurree, V. (2005), "Technology Integration in Education in Developing Countries: Guidelines to Policy Makers", *International Education Journal* **6**(4), 467-483.
- Lekka, A. & Pange, J. (2015, November), "What ICT Tools do Undergraduate Students Use?", *Proceedings of Interactive Mobile Communication Technologies and Learning (IMCL), 2015 International Conference* (pp.386-388). IEEE.
- Leonard, D. & Sensipar, S. (1998), "The Role of Tacit Knowledge in Group Innovation", *California Management Review* **40**(3), 112-132.

- Lichtenthaler, U., & Ernst, H. (2006), "Attitudes to Externally Organising Knowledge Management Tasks: A Review, Reconsideration, and Extension of the NIH Syndrome", *R&D Management* **36**(4), 367-386.
- MacNeil, C. M. (2003), "Line Managers: Facilitators of Knowledge Sharing in Teams", *Employee Relations* **25**, 294-307.
- Mogotsi, I. C., Boon, J. A., & Fletcher, L. (2011), "Modelling the Relationships Between Knowledge Sharing, Organisational Citizenship, Job Satisfaction and Organisational Commitment among School Teachers in Botswana", *African Journal of Library, Archives & Information Science* **21**(1), 41-58.
- Nnadozie, C.O. (2016), "ICT: Its Application to Knowledge Management and Role in Sustainable Development in Nigeria", Lead Paper Presented at 2nd Annual Conference of the Nigeria Library Association (NLA), Ebonyi
- State Chapter held 30th November - 3rd December, 2016 at Akanu Ibiam Federal Polytechnic, Unwana-Afikpo.
- Osakwe, R.N. (2012), "Challenges of Information and Communication Technology (ICT) Education in Nigerian
- Public Secondary Schools", *Education Research Journal* **2**(12), 388-391. Retrieved from http://www.resjournals.com/ERJ.
- Osunade, O., Philips, O. F. & Ojo, O. (2007), "Limitations of Knowledge Sharing in Academia: A Case from
- Nigeria", *Knowledge Management for Development Journal* **3**(1), 26-34.
- Prensky, M. (2001), "Digital Natives, Digital Immigrants Part 1", *On the Horizon* **9**(5), 1-6.
- Renzl, B. (2008), "Trust in Management and Knowledge Sharing: The Mediating Effects of Fear and Knowledge Documentation", *Omega* **36,** 206-220.
- Ryu, S., Ho, S. H., & Han, I. (2003), "Knowledge Sharing Behavior of Physicians in Hospitals", *Expert Systems with Applications* **25***,* 113-122.
- Sentlowitz, S. (2009), "Engaging Students in Video Production and Movie Making in the Classroom", *Tech & Learning.* Retrieved from http:// www.techlearning.com
- Shelton, K., & Saltsman, G. (2005), "An Administrator's Guide to Online Education. Charlotte, NC, Information Age Publishing.
- Srinivas, S. A. S. (2016), "Driving Knowledge Sharing Initiatives for Enhanced Collaboration in Sultan Qaboos
- University (SQU) Libraries–A Case Study", *Electronic Journal of Knowledge Management* **14**(1), 31-44.
- van den Hooff, B., & de Ridder, J. A. (2004), "Knowledge Sharing in Context: The Influence of Organizational Commitment, Communication Climate and CMC Use on Knowledge Sharing", *Journal of Knowledge Management* **8**(6), 117-130.
- Yi, J. (2009), "A Measure of Knowledge Sharing Behaviour: Scale Development and Validation", *Knowledge Management Research & Practice* **7**(1), 65-81.
- Yusuf, M.A. (2005), "Modern Technology and Library Services in Nigeria", *Katangora Journal of Science and Technology* **1**(2), 5-18.