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An Investigation of the Information Communication Technology (ICT) Proficiency of Librarians in University Libraries in the 21st Century, Edo State, Nigeria

Ikenwe, Iguehi Joy

Lecturer, Department of Library and Information Science, Ambrose Alli University, Ekpoma, Nigeria

Idhalama, Ogagaoghene Uzezi

Assistant Lecturer, Department of Library and Information Science, Ambrose Alli University, Ekpoma, Nigeria

Elogie, Ademakhe Anne

Lecturer, Department of Library and Information Science, Ambrose Alli University, Ekpoma, Nigeria

Saliu, Anode Ferdinand

Research Assistant, Department of Library and Information Science, Ambrose Alli University, Ekpoma, Nigeria

Abstract:

As the World is advancing technologically, librarians must become proficient as information image makers in the use of ICT in order to survive in this 21st century. Therefore, this study investigates ICT proficiency of librarians in University libraries in the 21st century. Descriptive survey research design was adopted for the study. The population of the study comprised of all professional, Para-professional and system based librarians at University of Benin, Ambrose Alli University and Benson Idahosa University with ICT skills with a sum total of 60. Total enumeration sample size was used and purposively sampling technique was adopted for the study. Questionnaire was used to collect reliable data for this research and data analyzed using simple percentage and chi square was used for the hypotheses. Findings revealed that librarians are acquiring considerable basic skills in ICT. However, they need to concentrate more on network-based services and digital services. The study also revealed that librarian's age doesn't affect ICT proficiency and the factors that propel the acquisition of ICT skills are to; be relevant in the profession and the society, for personal development and to render effective services. It was recommended that, there should be an increase in the library subvention for more ICT gadgets and library standing policies should support the use of ICT in the management of libraries.

Keywords: *Technology, information communication technology, information communication technology proficiency, librarians*

1. Introduction

Libraries are social institutions that select, acquire, organize (catalogue and classifies), preserve and disseminate information or the knowledge of humanity to library users. In this vein, Ikenwe and Adegbilero- Iwari {2015} opined that a library is a repository of knowledge and a dynamic social institution, an indispensable resource centre for reliable information and meant to preserve the recorded knowledge of man for use. It is worthy to state that a University without the services of a library is half baked.

However, University libraries are regarded as important nerve centre of an academic institution of higher learning where academic activities revolve, established to support teaching, learning and research processes and manned by qualified librarians to render efficient and effective services to university library users {such as postgraduate students, undergraduate students, lecturers, staff, amongst others}. In this light, a librarian is someone or a person who holds a degree in librarianship at HND, BSc, MSc and Ph.D. levels and professionally trained in the activities of library operations and disseminating information to meet users' information needs.

As the world is advancing technologically, librarians must become proficient as information image makers in the use of ICT in order to survive in this 21st century, being versatile with ICT that would sufficiently satisfy and meet the information needs of users. This is necessitated by the fact that, ICT has become a driving force in the provision of quality services to University library users. Similarly, in a changing environment when most of the libraries are becoming ICT based, it is imperative for librarians to be well informed, trained and updated with basic skills in ICT. In this sense, Anyaoku (2012) expresses that currently, technology adoption by libraries has moved from automating selected library operations to the stage where ICT have permeated into almost all spheres of library services. Furthermore, librarians are now required to have skills in ICT use in addition to the traditional information and library science skills. However, Itsekor & Ugwunna (2014) expressed that, the library world today in the face of digitization means that older ways of doing things are giving way to new and better ways of accomplishing tasks.

There is need for libraries and librarians to make better use of ICT in library operations. The real question is not whether this technology should be used, but how competent, skillful and experienced librarians have in the use of these ICT tools in the provision of quality library services. Therefore, this study is necessary to assess the ICT proficiency of university librarians in this 21st century where ICT is paramount for effective and efficient information service delivery.

1.1. Research Questions

The research questions of this research are;

- i. What is the ICT proficiency of university librarians in Edo State?
- ii. What is the significant relationship between age and ICT proficiency?
- iii. What are the factors that propel the acquisition of ICT skills?

1.2. Hypotheses

- Ho 1. There is no significant relationship between age and ICT Proficiency of librarian
- Ho 2. There is no significant relationship between years of experience and ICT proficiency of librarian

1.3. Statement of Problem

ICT can be a great tool for development and can be used to advance library service delivery in this 21st century. This is why professional and Para-professional librarians must equip themselves with technological skills that would be useful for library task and to be relevant in this information age. In the present setting where information is power, librarians must be seen as being able to address crucial professional responsibility in the use of ICT. It has been observed that some librarians show apathy resulting from technological changes unleashed on the library profession. Some people may question the need for librarians to be proficient or why they should make use of ICT for information processing and house-keeping operations. The real question is not whether this technology should be used but whether or not it is appropriate and how experienced librarians are in the use of ICT for the provision of quality library services (Edem, 2008). We are in now in a digital era where technology is the order of the day having librarianship inclusive, this spurt of technology in this current dispensation has brought astronomic changes in all aspects of library activities. The librarians in charge of these activities ought to be experienced to be able to tame the concept of information/knowledge explosion and by extension dutifully carry out their functions more effectively and efficiently. It is owing to the above highlighted points that the researchers wish to investigate the information communication proficiency of librarians in university libraries in Edo State-Nigeria.

2. Literature Review

2.1. ICT Proficiency of Librarians

Information Communication Technology (ICT) are being increasingly used in library and information services for the acquisition, processing and dissemination of information. Libraries and information centers have been using ICT based resources and services to satisfy the diverse information needs of their users. Mohamed (2007). ICT are various technological devices used to create, store, manage and disseminate information. Afolabi and Abidoye (nd) described ICT as electronic devices such as computers, telephones, internet, satellite system, to store, retrieve and disseminate information in the form of data, text image and others.

Islam and Islam (2006) asserts that, ICT is a diverse set of technological tools and resources used to create, disseminate, store and manage information. Furthermore, defined ICT as “the use and application of computers, telecoms and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information. In this light, some forms of ICT facilities in the library includes; computers, internet facilities, scanners, sensors, barcode, teleconferencing, telecommunication system, E-mail, printers, mobile phones amongst others.

In recent times, studies have been conducted on ICT competencies or skills of librarians in rendering effective services to its users to meet the challenges in this digital age. More so, ICT proficiency will shape the future of librarians who deliver information in this 21st century of information age. In this vein, proficiency of librarians is their ability, knowledge and skills to apply ICT technologies in library tasks and rendering effective and efficient services to its users. However, ICT proficiency implies the ability of librarians to perform effective information service delivery and library operations in a technological-based work environment.

According to Seenivasulu in Seena and Sudhier (2014), ICT skills or IT skills can be referred to as the overall competencies, knowledge, know-how, skills and attitudes) necessary to create, store, analyze, organize, retrieve and disseminate digital information (text, images, sounds) in digital libraries or any type of information. Seena and Sudhier (2014) express that, in recent years, work for the information profession has become characterized by fast-paced change and new skills requirements. Also, that ICT has provided libraries with new opportunities to improve their resources and services.

In this light, Itsekor and Ugwunna (2014) asserts that in the present setting, librarians must be seen as being able to address this crucial professional responsibility by recognizing the implications of these changes which affect their work schedule and services. ICT applications and competency is crucial in university libraries in the settings of user changing needs and skills in ICT technologies is imperative for university librarians to meet the ever changing and intricate prerequisite of users. As noted by Mazumdar (2007) in Anyaoku (2012), librarians require various IT skills in the technology age such as computer operation, database creation and maintenance and updating of web pages. Assessment of their competencies on these required skills will indicate the standard of services offered to users. In addition, Sreekumar (nd) stated that users demand the latest internet based resources and services. Internet

skills of the information professionals need to improve drastically to meet the challenges being posed by these technologies as well as to explore their possibilities, opportunities and benefits.

Information sources and services being provided by librarians to their users' needs to adapt to the electronic information environment being experienced by most information end-users. In addition to the traditional library and information management skills, librarians now need to possess additional skills and expertise, more so in the use of modern information and communication technologies, automation information service, electronic publishing, digital information management and knowledge management.

Chisenga (2004) in Islam and Islam (2006). New information professional should acquire technological systems thinking, commitment to continuous improvement of skills, techniques and strategies and sensitivity to network environment. However, the 21st century has brought the adoption of ICT in the operations of the library and entails to a large extent librarian's competency in working with ICT. This has necessitated additional skill requirement in ICT use in addition to the library skills and traditional information service delivery.

2.2. Age of Librarians and ICT Proficiency

With the advent of a relatively new technology called ICT, there has been great development in the library. However, this technology has affected both the young and the older librarians as well. Hinged on the aforementioned point, Bierman (2000) averred that there are many difficulties in letting people accept change. It is actually quite a cumbersome task to literally start teaching an octogenarian to learn how to be using his right hand to be eating after using his left hand for over ten (10) decades. Panki (2004) submitted that more experienced and older librarians enjoy continuing their work, contributing and creating within a group and that they are more satisfied with their jobs than their colleagues with less years of working experience. But the younger librarians are seen as being more flexible, adaptable, more receptive of new technology and better at learning new skills. So many studies have shown that older librarians are quite reluctant to accept change in their places of work and this must be worked on to ensure that ICT is given adequate attention and by extension attract economic progression and development.

Spacey, Goulding and Murray (2004) also made this point clearer by observing that in relation to attitudes, younger librarians display higher intention to use ICT facilities with ease than their senior colleagues. Older workers/librarians found ICT more difficult to use than the younger staff. Though it is quite a common perception that younger people are more flexible in the use of ICT than older people, there is a belief by others that it is otherwise. To this end, Zemke, Raines, Fillipozak (2000) dismissed as myths such conception of older workers not being as bright as younger workers, that more experienced workers should have a positive, innovative, marketing oriented and entrepreneurial attitude to enhance their job effectiveness as librarians. But ideally, age of librarians, ought not to have a negative impact on their work.

2.3. Factors Propelling Acquisition of ICT Skills

The only way of satisfying user demand is to use ICT in information delivery. Librarians and libraries must do this in order to remain relevant in the face of challenges and changes. Aemodi and Adepoju (2009) cited Sass (2001) as he contends that to ensure our perpetual relevance as librarians to a new generation of users, we need to be where our users are, even if they are not inside our libraries. In a similar vein, Biddiscombe (2001) stated that internet and IT skills are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in the UK and the development of managed (or virtual) learning environments.

Thanuskodi (2011) on his own part submitted that the library professionals must possess sufficient knowledge of new ICT skills such as library automation, e-resources management, content management, organization of information on internet and intranet, developing and maintaining digital libraries/institutional repositories, web based library services etc. the sole aim of the survey was to understand and sketch a frame work of information literacy level of library professionals of fifteen major engineering colleges in the state of Tamil Nadu, in order to meet the ever changing needs/demands of users. According to him, professionals with right ICT skills and expertise will have plenty opportunities in future and will be crucial to the management of technology intensive libraries. The singular fear is that libraries and librarians may go into extinction and de-professionalized respectively if ICT is not given appropriate attention it deserves. Corroborating this fact, Fourie (2004) opined that "they are part of a global world that is increasingly shaped by electronic networks and information technology" (p.63). in this ICT-oriented environment, library professional must become ICT literate to survive.

3. Research Methodology

The research design adopted for this study was descriptive survey research design. The population of this study comprised of all professional and Para professional librarian and system based librarians at UNIBEN Library, Ambrose Alli university, Ekpoma and Benson Idahosa university. The Population include:

Name of institution	Location	Professional librarian with ICT skills/ system librarian	Para professional librarians with ICT skills
UNIBEN	Benin city	10	14
AAU	Ekpoma	6	11
BIU	Benin city	7	12
TOTAL		23	37

Table 1

However, purposive sampling technique was employed for this study and total enumeration sample size of professional and system based librarian (23) and para professional staff (37) with a total of 60 staff was used. Questionnaire was used to collect reliable data for this research. To ensure relevant items were included in the questionnaire, two experts in library profession scrutinized, the contents for face validity. Copies of the questionnaire were personally administered to librarians with ICT skills and data analyzed using simple percentage and table. While, chi-square test was used for the hypotheses.

4. Data Analysis and Presentation of Results

4.1. Demographic Data of Respondents

Gender	Male	Female	Total
BIU Library	8(18.1)	6(13.6)	14(31.7)
AAU Library	3(6.9)	7(15.9)	10(22.8)
UNIBEN Library	13(29.6)	7(15.9)	20(45.5)
TOTAL	54.6	45.4	100

Table 2: Gender of the respondents

Age	No. of Respondents	Percentage
21~30 years	7	16
31~40 years	20	45.4
41 and above	17	38.6
Total	44	100

Table 3: Age of respondent

The table above shows that 7 (16%) respondents working in the library falls between 21-30 years. 20(45.4%) for 31-40 years, 17(38.7%) for 40 and above in other words, the libraries are more populated with 31-40 years old librarians.

Years of experience	No of Respondent	Percentage
1year below	5	11.4
2~10 years	17	38.6
11~20 years	18	41
21~30 years	4	9.0
31~above	~	~
Total	44	100

Table 4: years of experience

From the above, 4(11.4%) respondents have worked in the library for a year below, 17(38.6%) for 2-10 years, and 18(41%) for 11-20 years, and 4(9.0%) for 21-30 years. In other words, more than half of the respondents have worked in libraries from 10 years or more.

4.2. Research Questions

- RESEARCH QUESTION 1: What is the ICT proficiency of University librarians?

	Very High	High	Moderate	Low	Very Low
Laptops	24 (54.6)	12 (27.3)	4(9.09)	4(9.09)	-
Multimedia	18(41)	14(31.8)	6(13.6)	4(9.09)	2(4.5)
Digital cameras	10(22.8)	9(20.4)	12(27.2)	7(16)	6(13.6)
Printers	17(38.7)	15(34)	7(16)	4(9.09)	1(2.2)
Scanners	16(36.4)	7(15.9)	12(27.2)	7(16)	2(4.5)
Barcode	18(41%)	9(20.4%)	9(20.4%)	5(11.4%)	3(6.8%)

Table 5: what is your level of ICT proficiency in using hardware?

The information above shows the ICT proficiency in using hardware. The data reveals that 24(54.6%) of the respondents possess very high proficiency in using laptops, and 4(9.09%) moderate proficiency. In using multimedia, 18(41%) indicated very high proficiency and 2(4.5%) very low proficiency. In using digital cameras, 12(27.2%) respondents possess moderate proficiency and 6(13.6%) low proficiency. In using printer, 17(38.7%) indicated very high proficiency, and 1(2.2%) indicated very low proficiency. In using scanner, 16(36.4%) indicated very high proficiency and 2(4.5%) very low. In using barcode, 18(41%) very high, and 3(6.8%) indicated low.

	Very High	High	Moderate	Low	Very Low
Oracle	8(18.1)	9(20.5)	10(22.7)	10(22.7)	7(16)
MYSQL	4(9.09)	8(18.2)	13(29.5)	13(29.5)	6(13.7)
Win ISIS	6(13.6)	5(11.4)	9(20.4)	18 (41)	6(13.6)
MS Access	11(25)	7(13.6)	6(13.6)	14(31.8)	6(13.6)

Table 6: Proficiency in data/ software development

Librarians proficiency in database/software development.... In developing oracle, 10(22.7%) respondents indicated moderate proficiency and 7(16) indicated very low proficiency. In developing MYSQL, 13(29.5%) respondents possess moderate proficiency while 4(9.09%) indicated high proficiency. Developing Win ISIS, 18(41%) respondents possess low proficiency, while 6(13.6%) indicated very high proficiency, in developing MS Access, 14(31.8%) respondents possess low proficiency, while 6(13.6%) indicated very high proficiency.

	Very High	High	Moderate	Low	Very Low
Printing documents	26(59)	12 (27.2)	3(6.9)	3(6.9)	-
Formatting documents	22(50)	12(27.3)	7(16)	1(2.2)	2(4.5)
Creating document	21(47.9)	11(25)	8(18.1)	4(9.0)	-
Saving document	26(59)	7(16)	9(20.5)	2(4.5)	-

Table 7: Proficiency in Microsoft word processing

The table above reviews the proficiency in Microsoft-word processing. In printing documents, 29(59%) respondents indicated very high proficiency, and 3(6.9%) indicated low proficiency. In formatting document, 22(50%) indicated very high proficiency, and 1(2.2%) indicated low proficiency. In creating documents, 21 (47.9%) indicated very high proficiency, and 4(9.0%) low proficiency of respondents. In saving documents, 26(59.0%) of the respondents indicated very high proficiency.

	Very High	High	Moderate	Low	Very Low
Send and receive mail	22(50)	10(22.8)	8(18.1)	4(9.09)	-
Availability of e—information services	14(31.9)	12(27.3)	9(20.4)	9(20.4)	-
Chat in web discussion groups	19(43.2)	8(18.1)	13(29.6)	3(6.9)	1(2.2)
Access and download e-information services	19(43.2)	12(27.3)	10(22.8)	2(4.5)	1(2.2)
Use search engine to find information	22(50)	14(31.9)	5(11.4)	1(2.2)	2(4.5)
Web searching skills	24(54.6)	11(25)	6(13.7)	2((4.5)	1(2.2)
Download file from internet	26(59)	10(22.7)	5(11.4)	3(6.9)	-
Browse internet	28(63.6)	7(16)	6(13.7)	1(2.2)	2(4.5%)
Send and receive E mail	19(43.1)	11(25)	8(18.1)	3(6.9)	3(6.9%)

Table 8: Proficiency in web base functions

The above table shows the proficiency in web/base functions to send and receive voice mail, 22(50%) respondents indicated very high proficiency, and low 4(9.09%). Availability of e-information services, 14(31.9%) respondents possess very high proficiency, 9(20.4%) indicated moderate proficiency also with 9(20.4%) possess low proficiency. Chat in web discussion groups, 19(43.2%) indicated very high proficiency, and 1(2.2%) very low. Access and download e-information services, 19(43.2%) respondents possess very high proficiency, and 1(2.2%) very low. Use search engine to find information, 22(50%) very high, and 1(2.2%) low. Web searching skills, 24(54.6%) of the respondents indicated very high proficiency, and 1(2.2%) low. Download file from internet, 26(59%) respondents indicated high proficiency, and 3(6.9%) low. Browse internet, 28(63.6%) respondents possess high proficiency and 1(2.2%) low. Send and receive e-mail, 19(43.1%) respondents indicated that they possess very high proficiency, and 3(6.9%) low proficiency.

- RESEARCH QUESTION 2: What is the significant relationship between age and ICT proficiency?

	SA	A	SD	D
The traditional library services are most preferable for my age.	3(6.9)	-	29(65.9)	12(27.2)
It is difficult to build my proficiency of this age	-	-	30(68.2)	14(31.8)
Too old to start opening ICT facilities	-	2(4.5)	30(68.2)	12(27.3)
It is hard to adjust from traditional library service to the 21 st century library service	-	5(11.4)	26(59)	13(29.6)
ICT proficiency requires much time to require	-	5(11.4)	13(29.6)	13(29.6)

Table 9

The above table reviews the extent to which age influences librarians ICT proficiency: the first variable shows that 29(65.9%) i.e. SD while 3(6.9%) SA that the traditional library service ifs most preferable for their age, findings show that most respondents strongly disagreed, the second variable indicate that 30(68.2%) SD, while 14(31.8%) D that it is difficult to build their proficiency at this age,

findings reveal that that most respondents also strongly disagree, the third variable shows 30(68.2%) SD, while 2(4.5%) A that they are too old to start operating ICT facilities, which indicate that most respondents strongly disagree. The fourth variable indicate that 26(59%)SD, while 5(11.4%)A, showing that more than half of the respondents strongly agreed that it is hard to adjust from traditional library services to the 21st century library services. While the final variable indicates that 13(29.6%)SD, while 5(11.4%)A, that ICT proficiency require much time to acquire.

- RESEARCH QUESTION3: What are the factors that propel the acquiring ICT Skills?

VARIABLES	SA	A	SD
To be relevant in the profession	34(77.2)	10(22.8)	-
To be relevant in the society at large	34(77.2)	10(22.8)	-
For self-development	36(81.9)	8(18.1)	--
To render effective services	38(86.3)	6(13.7)	-

Table 10

The factors that propel the librarians to acquire ICT skills are; to render effective services (86.3%), for self-development indicated by 81.9%, relevant in the society (77.2%) and in the area of self-development is (81.9%). Finally, in terms of effective services is (86.3%).

4.3. Test of Hypotheses

The stated hypotheses were tested using chi-square method of statistical analysis.

- HYPOTHESES ONE: There is no significant relationship between age and ICT proficiency of library professionals.

Responses	OI	EI	OI-EI	(OI-EI) ²	(OI-EI) ² /E
SA	-	11	-11	121	11
A	2	11	-9	81	7.4
D	12	11	1	1	0.09
SD	30	11	19	361	32.8
TOTAL	44				51.29

Table 11

- Degree of freedom

$(r-1)(c-1)$ @ 5% level of significance

Where r = number of rows = 2

C = number of columns = 4

$(2-1)(4-1)$ @ 5% level of significance = 7.815

Comparing chi-square computed with degree of freedom = 51.29 > 7.815

- Decision rule

Since the chi-square computed is greater than the tabulated chi-square, the hypothesis is rejected. While the alternative hypotheses are accepted.

- HYPOTHESES TWO: There is no significant relationship between years of experience and ICT proficiency of librarians

RESPONSES	OI	EI	OI-EI	(OI-EI) ²	(OI-EI) ² /E
SA	23	11	12	144	13.1
A	13	11	2	4	0.4
D	5	11	-6	36	3.3
SD	3	11	-8	64	5.8
Total	44				22.6

Table 12

- DEGREE of freedom

$(r-1)(c-1)$ @ 5% level of significance

$(2-1)(4-1)$ @ 5% level of significance = 7.815

Comparing chi-square computed with degree of freedom = 22.6 > 7.815

➤ Decision rule

The computed chi-square is greater than the table value which indicates that the hypotheses is rejected. While the alternative hypotheses which states that there is significant relationship between years of experience and ICT of librarians should be accepted.

4.3. Discussion of Findings

The study has investigated the ICT proficiency of professional, para-professional and system librarians in University libraries. The findings showed that librarians ICT proficiency level in software development is of moderate proficiency, this is in agreement with Ramesh, Vinayagamorthy and Gopalakrishnan (2007) that reported a survey findings on ICT skills among librarians in Tamil Nadu. The knowledge in ICT relates to operating systems, packages and programming languages, library automation software. The result showed that the librarians are acquiring considerable basic skills in ICT. However, they need to concentrate more on network-based services and digital library services.

The study also showed that librarians' age does not affect their ICT proficiency which is in contrary to the findings of Spacey (2003) in his findings when he reported that the age of librarians has some bearing on their attitude and subsequent usage of ICT at work. Finally, the study revealed that there are certain factors that propel the acquisition of ICT skills among which are: to be relevant in the librarianship profession, to be relevant in the society at large, for personal self-development and to render effective services. Partly buttressing these points, Aemodi and Adepoju (2009) cited Sass (2001) as the contend that to ensure our perpetual relevance as librarians to a new generation of users, we need to be where our users are, even if they are not inside our libraries. In a similar vein, Biddiscombe (2001) stated that internet and IT skills are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in the UK and the development of managed (or virtual) learning environments.

5. Conclusion and Recommendations

The survey of literature and practical investigation have given an insight into the research carried out in the related field of study. The library professionals in Nigeria most especially in Edo State are not equally proficient in all areas of ICT skills and low proficiency in data/software development. The majority are very high proficient in some areas, moderate in some areas, and low proficiency in data/software development. Finally, age of librarians has no significant bearing on their ICT proficiency.

The following recommendations have been adopted:

- i. Library staff should be given exposure irrespective of his/her status; they should have expertise in automation and software development.
- ii. Library standing policies should support the use of ICT in the management of libraries.
- iii. Librarians should be more dynamic in the library environment most especially in this 21st century.
- iv. Increase in the library subvention for more ICT gadgets.
- v. Staff with good ICT skills should be encouraged within and outside the library.

6. References

- i. Ademodi D.T. & Adpoju E.O. (2009). Computer skill among librarians in academic libraries in Ondo and Ekiti States-Nigeria. *Library philosophy and practice*. Retrieved on 31st May 2017.
- ii. Afolabi, A.F and Abidoye, J.A (n.d). The integration of information and communication technology in library operations towards effective library services. *Proceedings of the 1st International Technology, Education and Environment Conference; African Society For Scientific Research*
- iii. Anyaoku, E. N (2012). Computer skills set of librarians in Nigeria: Confronting the stereotype. *Annals of library and information studies*. vol 59; pp.128=134.
- iv. Edem, N. B. (2008). Use of information and communication technology ICT among librarians in selected Nigerian universities libraries in the South Zone. *Communicate, Journal of library & information science* 10 (2) 47-56
- v. Fourie, I. (2004). Librarians and the claiming of new roles: how can we try to make a difference? *ASLB Proceedings*, 56(1) 62-74
- vi. Ikenwe, I.J. and Adegbilero Iwari Idowu (2014). Utilization and user satisfaction of public library services in south west, Nigeria in the 21st century: A survey. *International journal of library science*
- vii. Islam, M.S and Islam M.N (2006). Information Communication Technology in libraries: A New Dimension in Librarianship. *Asian Journal of Information Technology*. 5 (8): 809-817.
- viii. Itsekor, V. O and Ugwunna, I.S. (2014). ICT competencies in the 21st century library profession: a departure from the past. *Academic research journals*. vol.2 (5), pp 51-57. <http://www.academicresearchjournals.org/IJALIS/index.htm>
- ix. Mazumdar, N.R. (2007). Skills for library and information professionals working in borderless library. ir.inflibnet.ac.in/bitstream/1944/1372/1/47.pdf.
- x. Mohamed, H.K. (2007). Use of ICT based resources and services in special libraries in Kerala. *Annals of Library and Information Studies*. Vol: 54; pp.23-31.
- xi. Panki, R. R. (2004). Baby boom generation librarians. *Library management*. Vol. 25 (4) 5
- xii. Seena, T.S. and Sudhier, P. (2014). A of Study ICT skills among library professionals in the Kerala University Library System. *Annals of library and information studies*. Vol. 61, pp.132-141.

- xiii. Spacey, R., Goulding, A. and Murray I. (2004). The power of influence: what affects public library staff's attitude to internet. *Library management*. Vol. 25(4&7)270-276
- xiv. Sreekumar, M.G. (2005). Role of the internet in enhancing the resource sharing and enriching the information resource in special libraries in india. dspace.iimk.ac.in/bitstream/handle/.../mas-synopsis-final...pdf.
- xv. Thanuskodi, S. (2011). ICT literacy among library professionals in the engineering college libraries of Tamil Nadu: an analytical study. *International journal of digital library services*. Vol. 1(2)
- xvi. Zemke, R., Raines, C. & Fillpozak, B. (2000). *Generation at work: managing the clash of veterans, boomers, xers and nexters in your work place*. New York: Amacom.