Article

Assessment of ICT Competencies among Librarians in University Libraries in Bayelsa State, Nigeria

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Abstract

This study reports on the assessment of ICT competencies among librarians in university libraries in Bayelsa State, Nigeria. The reason that necessitated this study was based on the enormous range of tasks which librarians are saddled with in rendering services to users of libraries, thus requiring adequate knowledge and skills to use ICT. A descriptive survey research design was adopted for the study. A population of 72 librarians in four university libraries in Bayelsa State was used for the study. A questionnaire was the instrument for data collection, based on a five-point Likert scale used to measure the ICT competencies of respondents. Data collected were analysed using frequency distribution. Findings from the study revealed that a majority of the librarians had a basic knowledge of ICT competencies such as word processing, storing and copying data from primary and secondary storage devices, retrieving documents from storage devices, electronic presentation, internet surfing, search engines, electronic document delivery, to managing library operations, except in areas of operating systems and software. The study provided insight on how to meet the changing and evolving information needs of users through the incorporation of learning ICT skills/competencies in the digital era. The study recommends the improved implementation of in-house training regarding skills and knowledge in ICT competencies, promoting awareness of ICT competencies in organisational culture, and the acquisition of recent ICT tools, being fundamental for better serving users' information needs.

Keywords: ICT tools; competencies; librarians; university libraries; Bayelsa State

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Introduction

The application of information and communication technology (ICT) has broadened the walls of library operations globally. The place of ICT in performing library tasks cannot be underestimated because it makes service delivery in the library more efficient and effective. The application of ICT has become useful due to the evolving nature of academic libraries, where most of the services have been upgraded to digital platforms (Chisita et al. 2022). Users of libraries are also getting frustrated by visiting the physical building, especially if they have to contend with poor staff skills development to provide library users with efficient services (Adio and Popoola 2010). Chisita and Shoko (2010) define ICT in a library context to mean the application of various technologies such as computers, retro-graphics, audio-visuals, electronic devices for storage, reproduction, and dissemination of information in a library environment. In a similar vein, Vijayakumar and Vijayan (2011) define ICT as the application of computers and technologies for the acquisition, organisation, storage, retrieval, and dissemination of information. Malanga (2015) explains the definition further to mean a revolution that provides the platform and technical means of handling information and communication. Considering the definitions above, ICT can rightly be said to be a catalyst for generating, processing, storing and disseminating information. Abdulrahman and Habila (2017) contend that the application of ICT in library and information services is not new, but the level of application and success is worrisome. Librarians require ICT skills to be effective in the application of ICT to service delivery, which is why it is important to prepare a new generation of librarians to effectively use the emerging technologies.

To have a better understanding of ICT competencies, Oyedokun et al. (2018a) emphasise the importance of the process by which library staff receive formal and informal training in modern technologies. Such training is imperative in order to effectively manage library operations and carry out their tasks of word processing, storing and copying data from primary and secondary storage devices, retrieving documents from storage devices, electronic presentation, internet surfing, search engines, and electronic document delivery. For this to happen, librarians have to walk the extra mile in obtaining higher qualifications, attending conferences, seminars and workshops, as well as embarking on trial and error/self-study for better job performance. The acquisition of ICT competence will positively affect library professionals to perform to expectations (Tippins and Sohi 2003), irrespective of the context in which they find themselves. Should librarians continue to use ICT to perform their tasks, it is believed that they would improve their skills regarding the use of such tools based on their competencies and knowledge gained over time. The changing effect of ICT use would affect both users and librarians, such that users' information needs would make librarians put in extra time to ensure conformity and consistency. It is believed that information needs will definitely increase in future, as changes are bound to erupt. This calls for rapid development in ICT training based on the newly required competencies of librarians. Librarians need to be equipped with ICT skills to be relevant in the ever-changing world of technology. Oyedokun et al. (2018a) view the ICT competencies of

library staff to be relevant skills and knowledge to be acquired by those working in the library to be able to fully exploit information search, retrieval, and delivery by using an electronic format. It is the acquisition of knowledge, skills and abilities at a level of expertise sufficient to be able to perform appropriately and professionally a given task in a workplace. ICT competence required by librarians, as outlined by Doyle (2019), includes online collaboration, e-mail management competency, online research skills, desktop publishing, word processing skills, social media management, data management, and retrieval skills. Considering the trend in rendering library services, librarians in university libraries in Bayelsa State need to be competent in basic ICT skills. This study endeavours to enhance librarians' performance with regard to rendering service to library users.

Statement of Problem

University libraries have witnessed an extraordinary transition in the way they devise and deliver information services (Igwe 2013). This was brought about by modern innovations through the use of ICTs. In today's competitive world, the theoretical knowledge of academic librarians is not adequate to survive in a globally changing environment of information. Therefore, the need for librarians to develop themselves through the acquisition of ICT competencies becomes essential, as that is the only way in which they could promote quality service delivery. Nonetheless, to meet the challenging situation as well as the changing information needs of library users, capacitation is the way to go. Personal experience and observation by the researchers (having worked at the Federal University Otuoke, Bayelsa State, Nigeria for over 10 years, and also studied at Ignatius Ajuru University of Education, Port Harcourt, Nigeria) have shown that there are still some librarians struggling to navigate the use of ICT, especially in this era of digital technologies. The reason is that digital technologies have infiltrated university libraries to such an extent that without ICT, the effective rendering of services to library users cannot be achieved (Caperon 2015). The librarians do not want to jeopardise this opportunity; hence, using ICT in university libraries has become crucial. Also, many studies have been conducted on ICT competencies among librarians, but there is still a scarcity of localised studies on the assessment of ICT competencies of librarians in university libraries in Bayelsa State, Nigeria. It was on this premise that the study, which sought to assess ICT competencies among librarians in university libraries in Bayelsa State, Nigeria, was carried out. This study would fill the existing knowledge gap in the areas of ICT competencies, methodological approach and contextual setting.

Purpose of the Study

The purpose of the study was to investigate the assessment of ICT competencies among librarians in university libraries in Bayelsa State, Nigeria. Research objectives were to:

1. Examine the levels of ICT competencies of librarians in university libraries in Bayelsa State, Nigeria.

2. Determine the means through which librarians acquire ICT competencies.
3. Identify constraints to ICT competencies acquisition by librarians.

Research Questions

The following research questions were formulated to guide the study:

1. What is the level of ICT competencies possessed by the librarians?
2. What are the means through which librarians acquire ICT competencies?
3. What are the constraints to ICT competencies acquisition by the librarians?

Review of related Literature

The library is an indispensable organ in the university structure. It is a service-oriented organisation that, over the years, has followed different trends to satisfy its users. A university library is regarded as the heart of a university that plays the important role of providing parallel support to its various academic needs such as teaching, learning, and research. With the advent and implementation of different ICT techniques in various walks of life, libraries of different types also found ICT useful as a driving force to serve users' needs, bringing efficiency in transactions (acquiring, organisation, storing, retrieving, and dissemination of information), and security of its environment (Bajpai and Margam 2019). In this age of the digital divide, librarians need to be ICT competent to survive. A study by Cherinet (2018) mentions that since skills are essential for the success of individuals and libraries, universities should include emerging skills in their curricula to meet the needs of 21st-century librarians and the expectations of a potential employer. Library and Information Science (LIS) professionals must update their ICT competencies to perform better in the digital environment.

In the same vein, Bansode and Viswe (2017) indicate that the ICT literacy level of library professionals working in university libraries in Maharashtra is regarded as satisfactory. The majority of library professionals have acquired the basic ICT literacy skills that are required to handle day-to-day library operations, but still, some library professionals need to enhance their literacy level in the area of open-source library automation software, digital library software, and institutional repository software. Librarians require extensive ICT skills in university libraries. Raju (2017) discusses IT knowledge and skills needed by academic librarians in the digital library environment. The results of his study revealed that 70 to 75% of job advertisements in the academic library sector emphasise advanced IT skills (integrated library system, advanced computer skills, digitisation process, web design and development, IR and technical skills, which are repositories, digitisation and curation of research data and other digital content).

Oyedokun et al. (2018b) define ICT competencies acquisition as "the process whereby the library staff received formal or informal training of modern technologies used in libraries by obtaining higher qualifications, attending conferences, seminars,

workshops, trial and error/self-study or on the job training." The acquisition of ICT competence will positively affect the professional performance of the librarian, as well as empower effective service delivery. Ademodi and Adepoju (2009) studied the possession of computer skills and competencies in the use of computers with a population of 30, comprising academic librarians from whom a sample of 24 was drawn. The data were analysed using frequency count and simple percentages. They found that 87.5% of librarians were computer literate. They also found that the most commonly reported skill was to navigate and explore the Internet. Omehia, Okwu, and Nsirim (2021) studied librarians' ICT competencies and the utilisation of emerging technologies in academic libraries in Rivers State, Nigeria. They used the census sampling technique, which revealed that the use of Web2.0 by librarians can enhance their utilisation of emerging technologies in academic libraries in Rivers State and make their work more effective. Sarfo et al. (2016) carried out a study on ICT access and use and competency level among second-cycle school teachers in Ghana. The findings of the study revealed that the majority of the respondents used mobile phones (89%) and e-mail for social communication (80%). It was further discovered that most of the respondents possessed a high level of competence in ICT applications. A study by Nkamnebe et al. (2015) examined the "extent of ICT skills possessed by librarians in the universities in Anambra State, Nigeria. The findings reveal that librarians in the universities in Anambra State are weakly skilled in ICTs." Another study by Okafor (2015) examined the "relevance and adequacy of IT skills set in some Nigerian Universities in a digital environment. The results revealed that many of the respondents do have knowledge and skills of e-mail use and word processing tasks but lack knowledge of search engines and directories other than Google and Yahoo, respectively."

Safahief and Asemi (2010) observed that the majority of librarians at Ispahan University, Iran, did not have good computer skills. Though librarians had extended experience, none of the librarians perceived their level of skills as very good. The Chartered Institute of Library and Information Professionals CILIP (2004) in the United Kingdom (cited in Abbas and Siddique 2020) suggested that continued professional development (CPD) is very important for the acquisition of all types of skills, competencies or knowledge. It also offers several services to support CPD, including seminars, conferences, workshops, and formal and informal methods.

Bajpai and Margam's (2019) study on ICT skills and competencies of library and information science professionals working in college libraries at the University of Delhi, stated that the majority of the LIS professionals in India were acquiring their ICT competencies through training, academic curriculum, attending conferences and continuing education programmes. Also, Abbas and Siddique's (2020) study on ICT competencies among university library professionals of Punjab, Pakistan, revealed ways of acquiring ICT competence. They include seminars, conferences, workshops, personal practice and LIS schools/departments.

Ahmed and Rehman's (2016) study on "Perceptions and Level of ICT Competencies: A Survey of Librarians in the Public Sector Universities in Khyber Pakhtunkhwa, Pakistan," revealed that library professionals' main problem in acquiring and promoting ICT competencies was the lack of sufficient staff in the library (86%). Inadequate continuing professional development activities (79%); lack of written continuing professional development (CPD) policies (77%); limited opportunities (77%); negative attitude of higher authorities to sending their library professionals for promoting ICT skills (76%); and tight working schedule (73%) were also identified as major problems being faced by library professionals of Khyber Pakhtunkhwa in acquiring and improving ICT competencies. Similarly, a lack of interest of library professionals in updating their ICT skills (32%); fear of ICT applications (19%); and personal inabilities (13%) were some other problems found to be hindrances in the promotion of ICT competencies of these library professionals. Ayoku and Okafor's (2015) study of ICT skills acquisition and competencies among librarians in Nigeria universities indicated some constraints to ICT skills acquisition by librarians. These included a lack of interest in ICT skills acquisition (conservatism); technophobia (fear of technology); nonchalant attitude; ignorance and apathy; poor funding of library; insufficient skilled personnel available to the trained librarian; limited training opportunities; and lack of motivation. Krubu and Osawaru (2011) mention factors hampering ICT competencies in Nigerian university libraries to include a lack of exploration skills; unreliable electric power supply; expensive software and hardware; and massive sums of money spent on fuel generators.

Methodology

The research design adopted for this study was a descriptive survey using enumeration or census. The population of the study comprised 72 librarians in four university libraries in Bayelsa State. The purposive and accidental sampling technique was employed in this study. The rationale for using enumeration or census was based on the author's interest. The instrument used for data collection was the questionnaire. With the support of other related questionnaires in similar studies, the author of this paper designed the questionnaire, after which it was given to experts in the field of library and information science. Some corrections were made based on comments raised by one of the experts before proceeding to administer the questionnaire to the respondents in the sampled university libraries. The administration of the questionnaire took four weeks. Data collected from respondents were analysed using percentages and frequency distribution. The results obtained are presented in the tables below.

Results and Discussion

The results of this study cover the following scope: 1) notes on the distribution of the study population, and 2) the level of ICT competencies possessed by the librarians. Table 1 indicates that Niger Delta University Library had more librarians 28(39%); Federal University Otuoke Library had 23(32%); Bayelsa Medical University Library had 12(17%); and University of Africa Toru-orua Library had 9(12%).

Table 1: Distribution of the study population

S/N	University Libraries	Population	Percentages (%)
1	Bayelsa Medical University Library (BMUL)	12	17%
2	Federal University Otuoke Library (FUOL)	23	32%
3	Niger Delta University Library (NDUL)	28	39%
4	University of Africa Toru-orua Library (UATL)	9	12%
Total		72	100

Source: Field survey (2022)

RQ1: What is the level of ICT competencies possessed by the librarians

In this segment, respondents were asked to indicate the level of ICT competencies possessed by the librarians. The results obtained are presented in table 2.

Table 2: Level of ICT competence

A: BASIC ICT COMPETENCIES	Very High F(%)	High F(%)	Moderate F(%)	Low F(%)	Very Low F(%)	Mean	Decision
Basic computing. i.e., word processing	54 (75%)	16 (22%)	2 (3%)	-	-	4.72	Accepted
Storing and copying data into primary storage device (e.g., hard disk)	58 (81%)	2 (3%)	7 (10%)	5 (7%)	-	4.57	Accepted
Storing and copying data into secondary storage devices (e.g., diskettes, flash drive, USB etc.)	57 (79%)	4 (6%)	6 (8%)	6 (8%)	-	4.60	Accepted
Retrieving documents from storage devices	38 (52%)	20 (28%)	5 (7%)	3 (4%)	6 (8%)	4.13	Accepted
Electronic presentation, i.e., PowerPoint	32 (44%)	18 (25%)	12 (17%)	6 (8%)	4 (6%)	3.94	Accepted
Graphic skills, i.e., CorelDraw	8 (11%)	-	11 (15%)	25 (35%)	28 (39%)	2.10	Rejected
Digitisation, i.e., scanning and uploading	23 (32%)	17 (24%)	13 (18%)	11 (15%)	8 (11%)	3.50	Accepted
Use of multimedia technology for the manipulation of printed information, dynamic sounds, music, graphs, animated photographs	4 (6%)	17 (24%)	21 (29%)	19 (26%)	11 (15%)	2.78	Rejected
Statistical skills, i.e., SPSS, Excel.	2 (3%)	2 (3%)	-	15 (21%)	53 (74%)	1.40	Rejected
Grand mean						**3.52**	**Accepted**
Decision cut-off point						**3.0**	

B: Web competencies	Very High F(%)	High F(%)	Moderate F(%)	Low F(%)	Very Low F(%)	Mean	Decision
Internet surfing/browsing	32 (44%)	14 (19%)	26 (36%)	-	-	4.08	Accepted
Internet skills, i.e., web content creation	4 (6%)	-	7 (9%)	25 (35%)	36 (50%)	1.76	Rejected
Search engines (e.g., Yahoo, Google etc.)	43 (60%)	26 (36%)	3 (4%)	-	-	4.56	Accepted
E-mail	53 (74%)	8 (11%)	11 (15%)	-	-	4.58	Accepted
Subject gateway/portals	-	5 (7%)	13 (18%)	21 (29%)	33 (46)	1.86	Rejected
Web 2.0/Lib.20 skills, i.e., blog, instant messaging, etc.	17 (24%)	12 (17%)	32 (44%)	11 (15%)	-	3.49	Accepted
Web page designs	-	-	-	59 (82%)	13 (18%)	1.82	Rejected
Electronic bulletin boards	-	-	-	68 (94%)	4 (6%)	1.94	Rejected
Electronic documentary delivery serv.	6 (8%)	18 (25%)	34 (47%)	6 (8%)	8 (11%)	3.1	Accepted
CDROM search	36 (50%)	8 (11%)	7 (10%)	10 (14%)	11 (15%)	3.67	Accepted
Use of OPAC/Web OPAC	10 (14%)	8 (11%)	9 (13%)	19 (26%)	26 (34%)	2.40	Rejected
HTML, PDF	15 (21%)	22 (31%)	28 (38%)	3 (4%)	4 (6%)	3.57	Accepted
Grand mean						**3.1**	**Accepted**
Decision cut-off point						**3.0**	
C: Level of ICT technical competence.	**Very High F(%)**	**High F(%)**	**Moderate F(%)**	**Low F(%)**	**Very Low F(%)**	**Mean**	**Decision**
Image technology	3 (4%)	-	-	-	69 (96%)	1.17	Rejected
Optical Character Recognition (OCR)	-	-	-	15 (21%)	57 (79%)	1.21	Rejected
Cataloguing and metadata	5 (7%)	5 (7%)	8 (11%)	28 (39%)	26 (36)	2.10	Rejected
Repairs	-	2 (3%)	-	65 (90%)	5 (7%)	1.99	Rejected
Networking	-	-	16 (22%)	24 (33%)	32 (44%)	1.78	Rejected
Software installation	-	6 (8%)	13 (18%)	42 (58%)	11 (15%)	2.19	Rejected
Grand mean						**1.74**	**Rejected**
Decision cut-off Point						**3.00**	

Source: Field survey 2022

Results in table 2 classify ICT competencies into three categories comprising basic ICT competencies, web competencies and technical competencies. Table 2 indicates that respondents' basic ICT competencies had a grand mean score of 3.52, which is above

the criterion mean of 3.0. This implies that librarians have a very high basic ICT competency level. Consequently, table 2 also indicates that the respondents' web competencies had a grand mean score of 3.1, which is slightly above the criterion mean of 3.0. This implies that librarians have a high web competency level. However, table 2 shows that the respondents' level of ICT technical competence had a grand mean score of 1.74, which is below the criterion mean of 3.0. This implies that librarians have a very low level of ICT technical competencies.

RQ2: What are the means through which librarians acquire ICT competencies?

In this segment, respondents were asked to indicate the means through which librarians acquire ICT competencies. The results obtained are presented in table 3.

Table 3: Means of acquiring ICT competencies

Means through which librarians acquire ICT competencies	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Mean	Decision
Workshops, seminars and conferences	49 (68%)	8 (11%)	-	5 (7%)	10 (14%)	4.1	Accepted
On-the-job training	32 (44%)	20 (28%)	5 (7%)	12 (17%)	3 (4%)	3.92	Accepted
Library school	12 (17%)	25 (35%)	-	14 (19%)	21 (29%)	2.90	Rejected
Personal practice	57 (79%)	15 (21%)	-	-	-	4.79	Accepted
Computer training centre	47 (65%)	13 (18%)	7 (10%)	5 (7%)	-	4.42	Accepted
Friends and colleagues	28 (39%)	24 (33%)	-	11 (15%)	9 (13%)	3.71	Accepted
Web-based tutorial (You Tube)	42 (58%)	30 (42%)	-	-	-	4.58	Accepted
Grand mean						**4.06**	**Accepted**
Decision cut-off point						**3.00**	

Field survey 2022

Results in table 3 indicate that the mean scores, which were above the criterion mean of 3.00, were accepted. However, item 30 was rejected since it had a mean score of 2.90, which is less than the criterion mean score of 3.0. Consequently, the grand mean score of 4.06, which is also above the criterion mean score of 3.0, implies that librarians acquire ICT competencies through various means that include personal practice, web-based tutorial (YouTube), computer training centre, workshops, seminars and conferences, on-the-job training and through friends and colleagues.

RQ3: What are the constraints to ICT skills acquisition by the librarians?

In this segment, respondents were asked to indicate the constraints to ICT skills acquisition by librarians. The results obtained are presented in table 4.

Table 4: Constraints to ICT skills acquisition

CONSTRAINTS	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	Mean	Decision
Librarians' poor attitude towards ICTs	4 (6%)	5 (7%)	3 (4%)	34 (47%)	26 (36%)	1.99	Rejected
Lack of support from university authorities in providing ICT facilities in libraries	29 (40%)	33 (46%)	3 (4%)	7 (10%)	-	4.17	Accepted
Lack of adequate technological infrastructures to support the integration of ICTs in the curriculum of Nigerian LIS schools	35 (49%)	37 (51%)	-	-	-	4.49	Accepted
Lack of sponsorship for librarians to professional conferences, workshops and seminars on ICT skills acquisition	18 (25%)	34 (47%)	10 (14%)	4 (6%)	6 (8%)	3.75	Accepted
Failure by library professional associations to conduct special training programs for librarians on ICT skills acquisition	25 (35%)	18 (25%)	15 (21%)	11 (15%)	3 (4%)	3.71	Accepted
Absence of policy for continuous evaluation or assessment of librarians' ICT skills	31 (43%)	24 (33%)	6 (8%)	2 (3%)	9 (13%)	3.92	Accepted
Grand mean						**3.67**	**Accepted**
Decision cut-off point						**3.00**	

Field survey 2022

Results in table 4 indicate that the mean scores, which were above the criterion mean of 3.00, are accepted. However, item 35 was rejected since it had a mean score of 1.99, which is less than the criterion means score of 3.0. Consequently, the grand mean score of 3.67, which is also above the criterion mean score of 3.0, implies that librarians have faced various constraints to ICT skills acquisition. The major constraints to ICT skills acquisition by the librarians include the lack of adequate technological infrastructures to support the integration of ICTs in the curriculum of Nigerian LIS schools; lack of support from university authorities in providing necessary ICT facilities in libraries; absence of a policy for continuous evaluation or assessment of librarians' ICT skills; lack of sponsorship for librarians to professional conferences, workshops and seminars on ICT skills acquisition; and failure by library professional associations to conduct special training programmes for librarians on ICT skills acquisition.

Discussion of Findings

Based on extant literature and findings to support the discussion, it can be deduced that ICT competencies are crucial among librarians in university libraries. It has become crucial because, without them, librarians would not be able to function adequately in the present-day information and knowledge economy. It can be deduced from the finding that librarians have a very high basic ICT competency level. The study also revealed that librarians have a high web competency level. Results from the study also showed that librarians have a very low level of ICT technical competence. Furthermore, it was revealed that librarians acquire ICT competencies through various means, which include personal practice, web-based tutorials (YouTube), computer training centres, workshops, seminars and conferences, on-the-job training, and through friends and colleagues. Also, it was discovered that the major constraints to ICT competence acquisition by the librarians included a lack of adequate technological infrastructures to support the integration of ICTs in the curriculum of Nigerian LIS schools; lack of support from university authorities in providing the necessary ICT facilities in libraries; absence of a policy for continuous evaluation or assessment of librarians' ICT skills; lack of sponsorship for librarians to professional conferences, workshops and seminars on ICT skills acquisition; and failure by library professional associations to conduct special training programmes for librarians on ICT competence acquisition. The findings of this study corroborate the results of Bansode and Viswe (2017) as well as Sarfo et al. (2016), which revealed that the ICT literacy level of the library professionals working in university libraries is satisfactory and that a majority of library professionals have acquired the basic ICT literacy skills required to handle day-to-day library operations. The findings of this study are also consistent with the results of Ademodi and Adepoju (2019), which revealed that 87.5% of librarians were computer literate.

Recommendations

Based on the findings of the present study, the following recommendations are proffered:

1. To improve the level of ICT competency among librarians, the management of the various institutions should encourage and sponsor their librarians to attend various forms of training to help update their knowledge and skills in the application of emerging technologies for effective library service provision.
2. The professional associations and LIS schools should organise training programmes and short courses related to ICT competencies for librarians.
3. To enhance the level of influence of ICT competency on job performance, every library personnel member should be engaged in ICT-related training of professional courses, which will, in turn, boost work efficiency and effective library service delivery.
4. The university librarians in the different institutions should organise in-house training to equip the librarians with the required ICT competencies to enable them to function optimally.

Conclusion

The study, which assessed ICT competencies among librarians in university libraries in Bayelsa State, Nigeria, established that ICT competencies are crucial in the present-day information and knowledge economy. It has helped librarians in their changing role to navigate the ICT environment in rendering quality services to users of libraries. The study indicates that levels of ICT competencies of librarians vary between basic ICT competencies and high-level technical skills. Basic skills include word processing, storing and copying data onto primary and secondary storage devices, retrieving documents from storage devices, electronic presentation (PowerPoint), graphic skills (CorelDraw), digitisation, scanning and uploading, web competencies, internet skills, surfing/browsing, web content creation, search engines (Yahoo, Google), e-mail, subject gateway/portals, Web 2.0/Lib.20, blog, instant messaging, and web page designs.

ICT technical competencies include image technology, optical character recognition (OCR), cataloguing and metadata and networking. It can be deduced that knowledge, skills and capability acquired in these areas of ICT would assist and support librarians to become more versatile in gathering, processing and presenting data and information to align with users' information needs. The study unveils that some of the ICT competencies mentioned are important for quality service delivery to users in the present information and knowledge economy. Some of these skills are complex, requiring extensive knowledge before they can be harnessed and used in the library environment. For librarians to master some of these ICT competencies, they require further training and the acquisition of further knowledge in ICT. As the economy changes, the information needs of users change as well, and librarians are expected to do more in their support of different work operations in the organisation. An interesting finding of the study is the need to learn from one another, so that the transfer of ICT competencies becomes easier considering the complexity and increasing number of library users each year. The need for in-house skills and knowledge among librarians becomes essential.

The study concludes that there are no university libraries in the present day that could survive without their librarians having some of the identified ICT competencies. Therefore, institutional awareness of the acquisition of ICT competencies becomes fundamental, and the acquisition of recent ICT tools is essential to better serve users' information needs.

References

Abbas, M. A., and N. Siddique. 2020. "A Study of ICT Competencies among University Library Professionals of Punjab, Pakistan." *Library Philosophy and Practice* (e-journal). https://digitalcommons.unl.edu/libphilprac/4000.

Abdulrahman, B., and L. Habila. 2017. "Library and Information Science Education and the Challenges of ICT in a Depressed Society." *Research Journal of Library and Information Science* 1 (1): 25–30.

Ademodi, D. T., and E. O. Adepoju. 2009. "Computer Skills among Librarians in Academic Libraries in Ondo and Ekiti States, Nigeria (LPP274)." *Library Philosophy and Practice*. https://digitalcommons.unl.edu/libphilprac/274.

Adio, G., and S. O. Popoola. 2010. "Job Satisfaction and Career Commitment of Librarians in Federal University Libraries in Nigeria." *Library Review*. https://doi.org/10.1108/00242531011031160.

Ahmed, S., and A. Rehman. 2016. "Perceptions and Level of ICT Competencies: A Survey of Librarians at Public Sector University in Khyber Pakhtunkhwa, Pakistan." *Pakistan Journal of Information Management and Libraries* 18 (1). 1–12. https://doi.org/10.47657/2016181951.

Ayoku, O. A., and V. N. Okafor. 2015. "ICT Skills Acquisition and Competencies of Librarians: Implication for Digital and Electronic Environment in Nigeria." *Electronic Library* 33 (3): 502–523. https://doi.org/10.1108/EL-08-2013-0155.

Bajpai, V. K., and M. Margam. 2019. "ICT Skills and Competencies of Library and Information Science Professionals working in College Libraries, University of Delhi." *Library Philosophy and Practice* (e-journal). https://digitalcommons.unl.edu/libphilprac/2275.

Bansode, S. Y., and R. Viswe. 2017. "ICT Literacy among Library Professionals Working in the University Libraries in Maharashtra, India: A Study." *DESIDOC Journal of Library and Information Technology* 37 (5): 353–359. https://doi.org/10.14429/djlit.37.11723.

Caperon, L. 2015. "Developing Adaptable, Efficient Mobile Library Services: Librarians as Enablers." *M-Libraries 5: from Devices to People*, *5*, 199. https://doi.org/10.29085/9781783300730.024.

Cherinet, Yared Mammo. 2018. “Blended Skills and Future Roles of Librarians.” *Library Management* 39 (1/2): 93–105. https://doi.org/10.1108/LM-02-2017-0015.

Chisita, C. T., B. Chiparausha, V. Tsabetse, C. T. Olugbara, and M. Letseka. 2022. “Remaking Academic Library Services in Zimbabwe in the Wake of Covid-19 Pandemic.” *The Journal of Academic Librarianship* 48 (3): 102521. https://doi.org/10.1016/j.acalib.2022.102521.

Chisita, C. T., and M. Shoko. 2010. “Harnessing the Use of ICTs in Harare.” Harare: Unpublished.

Doyle, A. 2019. “Information and Communications Technology (ICT) Skills of Librarians.” *Electronic Library* 33 (3): 502–523.

Igwe, U. O. 2013. Moving into the Future: A New Vision of Library Service for the National Open University of Nigeria.

Krubu, D. E., and K. E. Osawaru. 2011. “The Impact of Information and Communication Technology (ICT) in Nigerian University Libraries.” *Library Philosophy and Practice* (583): 1–19.

Malanga, D. F. 2015. “Use of Information and Communication Technology: A 21st Century for Library and Information Professionals.” Accessed May 5, 2017. http://works.bepress.com/donalmalanga/2/.

Nkamnebe, E. et al. 2015. “Extent of Information and Communication Technology Skills Possessed by Librarians in University Libraries in Anambra State, Nigeria.” *Information and Knowledge Management* 5 (9): 22–31.

Okafor, N. M. 2015. “Teacher of Poor Learning Environment: Improvisation for the Improvisations of Science Teaching Aids, Instructional Materials in Science Education.” *Journal of Resourcefulness and Distinction* 10 (1): 1–7.

Omehia, A., E. Okwu, and O. Nsirim. 2021. “Librarians’ ICT Competencies and Utilization of Emerging Technologies in Academic Libraries in Rivers State, Nigeria.” *Library Philosophy and Practice* (e-journal). https://digitalcommons.unl.edu/libphilprac/5410.

Oyedokun, T. T., F. A. Oyewumi, M. L. Akanbi, and D. M. Laaro. 2018a. “Assessment of ICT Perceived Ease of Use to End-user Satisfaction with Enterprise Resource Planning Systems.” *Computers in Human Behaviour* 20 (4): 505–515.

Oyedokun, T. T., F. A. Oyewumi, M. L. Akanbi, and D. M. Laaro. 2018b. “Assessment of ICT Competencies of Library Staff in Selected Universities in Kwara State, Nigeria.” *Library Philosophy and Practice* (e-journal) 1797: 1–39.

Raju, J. 2017. “Information Professional or IT Professional? The Knowledge and Skills Required by Academic Librarians in the Digital Library Environment.” *Libraries and the Academy* 17 (4): 739–757. https://doi.org/10.1353/pla.2017.0044.

Safahief, H., and A. Asemi. 2010. “Computer Literacy Skills of Librarians: A Case Study of Isafahan University Libraries, Iran.” *Electronic Library* 28 (1): 89–99. https://doi.org/10.1108/02640471011023397.

Sarfo, F. K., S. K. Amankwah, P. Oti-Agyen, and I. Yidana. 2016. “Information and Communication Technology Access and Use and Competency Level among Second-cycle School Teachers in Ghana.” *Journal of Media and Communication Studies* 8 (5): 43–51. https://doi.org/10.5897/JMCS2016.0495.

Tippins, M. J., and R. S. Sohi. 2003. “IT Competency and Firm Performance: Is Organizational Learning a Missing Link?” *Strategic Management Journal* 24 (8): 745–761. https://doi.org/10.1002/smj.337.

Vijayakumar, A., and K. Vijayan. 2011. “Information Technologies in Libraries.” *International Information and Library Review* 35: 375–382. https://doi.org/10.1080/10572317.2003.10762612.