



Assessment of High-Tech Skills Competency among Librarians in Some Selected Universities in South-South, Nigeria

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Abstract

This paper examines high-tech skills competency of librarians in selected university in South-South, Nigeria. The population of the study was 44 professional librarians in Selected universities, in South-South, Nigeria, during the 2005/2006 academic session. The manageable size of the population warrants the adoption of total enumeration technique, thus, questionnaire was used as a tool for data collection and distributed to respondents physically at their different libraries by the two research assistants, where at the end, a total of 44 questionnaires were recovered and made usable for analysis (100% response rate). The data were analyzed using descriptive statistics, the result indicate that respondents were not fully use of the following high-tech skills, network management, computer security knowledge, web design, graphic design, creative online instructional materials/products, instant messages and instant software. The findings revealed that in-house training, NLA training, LRCN training and self-sponsorship were the modality to acquired IT training. The challenges identified include technological inefficiency/ AI integration, high cost of digitisation equipment/software, poor ICT infrastructure, insufficient institutional support, inadequate funding/limited training and skill development, ethical and security issues. Based on the findings the study recommended that management should provide adequate training to librarians especially on the aspect of network management, computer security knowledge, blogging, graphic design, web design, instant messages and creative online instructional materials/products, most of the high tech skills claimed not been used among the librarians in the university understudy, among others.

Keywords: High-tech skills, ICTs, Librarians, University Library, South-South

Introduction

In the era of rapidly changing Information and Communication Technologies (ICTs) in the world, libraries and the roles of librarians are not left out. Modern day librarians are not expected to handle just the conventional resources but must have the mastery of hi-tech skills ranging from digital cataloguing, electronic databases, online reference services, and newer technological concepts such as artificial intelligence and cloud computing, just to mention a few. In Nigeria, university libraries are progressively embracing ICT to improve access to information and service delivery. Nevertheless, the level of acquisition and the effective utilisation of ICT skills among librarians in the Nigerian universities are often hampered by differential factors such as infrastructural development, availability of training, and level of commitment of their respective institutions, especially in the case of the South-South zone where universities struggle with technological challenges. Evaluation of the ICT skills of librarians in such an environment would serve to inform the library profession on the level of preparation of their professionals in the knowledge economy era.

Statement of the Problem

With the advent of the digital revolution, many Nigerian libraries have not fully embraced the use of modern technologies. There are several difficulties that Nigerian librarians encounter in their effort to adopt new technologies in library operations. These are lack of training, insufficient access to ICT resources, difficulty in using the AI systems, lack of access to resources that can facilitate computer use and technology, poor funding and inability to cope with new technology. All these, throw doubt on the presence of high-tech skills competencies among Nigerian librarians needed for the demands of this modern information age. Libraries can no longer operate without adequate high-tech skills in all librarians if they hope



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to remain relevant. This study attempts to answer that critical research problem by addressing the state of high-tech skills competency of Nigerian librarian

Objectives of the Study

The main objective of the study is to assess high-tech skills competency of librarians in selected university in South-South, Nigeria. The specific objectives are to:

1. Evaluate high-tech skills used among the librarians in selected university in South-South, Nigeria;
2. Determine high-tech training attended among the librarians in selected university in South-South, Nigeria;
3. Examine modality of acquiring IT Training among the librarians in selected university in South-South, Nigeria;
4. Identify the obstacles faced by librarians in acquiring and utilising high-tech skills; and

Review of Related Literature

High-tech Skills Use in the University Libraries

To cope with the current changing information environment in academic libraries, librarians need new and high-tech competencies like database searching, digitization, cloud computing, and AI integration in libraries. From researches in Nigeria and around the world, there has been progress but challenges still exist concerning lack of adequate training and infrastructure in full adoption of high-tech competencies. ICT competencies is defined as skills the librarian should be capable of displaying in using the Information and Communication Technology facilities to execute the operations and functions in the 21st century university library environment. Basic operations of ICT hardware skills, email setup and management skills, safe usage of the Internet skills, on-line research skill, on-line communication and collaboration skills, management of social/academic network sites and document creation and retrieval skills. To determine the ICT skills and service delivery of librarians in private universities, Ilesanmi (2023) researched it using the survey method of research. In the survey research, the population consisted of 181 librarians in the 45 private universities in southern Nigeria. Questionnaire was the tool used for data collection and frequency, percentage, mean and chart were the data analyzed. The findings show that librarians offered several library services to users; acquire basic ICT skills and were also adaptable in using ICT to search the internet, access information and for communicating on social networks, to work with micro-office, except for computer programming skill.

The majority of the librarians acquire the ICT skill through self-learning, therefore possessing the skill of retrieving, evaluating, receiving, sending and transmitting information from digital format while considering the societal and legal factors is one among the many digital skills digital literates like library staff, researchers and scholar could display. These skills comprise of knowledge of computer devices' basic principals, skills to utilize computer network, skills to communicate with other through online communities, social networking and also observation of its rules of behavior (Gui & Argentin, 2011) supported Bitri and Akkaya's (2018) claim to Gui and Argentin's (2011) conclusion that scholars be experts in using search engines, web sites, Ms Office applications (word processor, power point, excel) as well as downloading and uploading files, desk top publishing, web based learning environment, web page design, data base management, computer programming and so on digital skills. In a similar research Eromosele et al (2021); Opele and Unegbu, (2012) concluded that ICT skills to power on and off a computer system, skills to browse the web, download files from the Internet, navigation and use of library automation software and its modules, for example, the OPAC (online public access catalog), skills to send and receive email, skills to copy to and from a CD-ROM and flash drive/hard disks as some other important ICT skills is needed to enhance proper exploitation of the 21st Century ICT facilities by the library. Being able to access high-tech skills and communication skills to perform work can be defined as having information communication and technology (ICT) skills. In this digital age, unless academia possesses ICT skills, academic libraries will not be able to provide information services effectively. In a researcher ability to search, analyse and present through the use of technology. Possessing knowledge of ethical and legal issues relating to accessing and use of information (Mommoh & Saka, 2016). It is required that academic librarians need to attend a variety of training courses to be skilled in using it. Training is a course of instruction in which an individual is given specific skills, to perform work correctly and proficiently. It is defined as the process whereby a worker is helped to acquire work-related skills which would enable him or her to perform certain job responsibilities in the organisation, Shidi and Nwachukwu (2015) argued that Libraries and mother institutions should also actively participate in training staff on issues such as MS word, MS excel, MS power point, skill to download and upload, searching library database, searching the web, integrated library software. Susan and Baby



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(2012) affirmed that librarian must be proficient and knowledgeable in the use of these technologies within teaching, research and community development. Basically, librarians must be able to be in tune with the needs that will shape digital librarianship skills. Every so often the core competencies of information providers should be evaluated. Misco and Ocholla (2013) believe that library Association organizations, in a diverse set of bodies, should participate in helping to develop new skills for librarians. So skills needed by the staff at the academic institution include the ability to operate digital library software program and the ability to install and upgrade software applications such as windows, SPSS and anti-virus, among others. Also the staff at the academic institution would like training needs identified for service delivery at the university library include training on the use of software and hardware programs, digitization training and strategy on how to download database programs such as OPAC, HINARI, AGORA, and ABSOHOST, among others. Chiware (2007), suggest the two primary ways to provide training in the digital age, especially for librarians at the African university libraries, include training in the form of workshop or short course training or formal training in a library and information science program

The digital literacy skill of Nigerian librarian was assessed by Sambo et al. (2022). Based on the survey data, many certified librarians acquire the digital literacy skills through sponsorship by themselves as well as trial and error. Similar to this, Mulat and Natarajan (2020) research the digital literacy skills among the library staff at Jimma University libraries in Ethiopia. Data shows that librarian learn the digital skill through workshop, formal education, and youtube, while similar research was also conducted on university librarians on the issue of digital skill by Emiri (2017). From this result, library staff acquire digital skill through learning from peers, trial and error, information technology courses, formal education, respectively. From the different results, we realize there are diverse methods library staff learn the digital literacy skills. Similar to this, Sambo et al. (2022) pointed out training received by the certified librarian in Nigeria, of which include: 231(59%) offices organise computer training for staff over time, 201(51.4%) institutions provides adequate fund for staff training sponsorships, 198(50.6%) enrolled in private computer and internet training/ assistance from friends and course mates, 175(44.7%) I sponsor myself to acquire digital literacy training whereas 172(43.9%) had improved over time by virtue of their training and work, 81(20.7%) by trial and error, and 76(19.4%) not easy for me to learn and practice using ICT gadget. Hamad et al. (2020) examined some problems facing librarians in Jordan while gaining digital skills: low funding and lack of funds from library management to attend trainings; poor library infrastructure, etc. Similarly, Emiri (2015) found some problems affecting librarians of academic libraries in Nigeria: no ICT facilities; no sponsorship; unreliable power supply. Okeji et al. (2019) stated many barriers to digital literacy learning such as lack of funds for training for professional skill acquisition, no ICT facilities, shortage of ICT, etc. Absence of ICT facilities, lack of Internet speed and lack of a robust and well-defined digital literacy training programs and standard is a serious obstacle to learning digital literacy skills (Ukwoma et al., 2016). However, academic libraries, library associations and school management must support their librarians by providing in-house training and financial aid for attending training workshops in order for them to acquire digital skills needed in the 21st century academic library

Methodology

This study employed a descriptive research design survey, considering the nature of the research. The study population was 44 professional's librarians from two universities in the South-South, Nigeria, one state university and one federal university, both universities were in Delta State. University of Delta Agbor, 17 professional's librarians while Federal University of Petroleum Resources, Effurun has 27 professional's librarians. The study population consists of the entire 44 professional librarians working in the South-South University in Delta State, Nigeria. Total enumeration sampling was adopted for the study owing to the manageable size of the population for the study. Justification for using this sampling procedure is that all the librarians at various units engaged in some kind of job function/activities relevant to the technology skills competency needed to enhance effective service delivery. The questionnaire was the instrument used in the collection of data and were administered to the respondent personally by researchers along with two (2) research assistants in all the university understudy. Forty-four (44) questionnaires were distributed and 44 were retrieved as the entire questionnaire distributed were usable, thereby achieving a response rate of 100%. The descriptive statistics was used to analyse the data by adopting the tabular and frequency count presentation modes.

Data Presentation

Table 1: Respondents' Demographic Information

Variable	Frequency	Percentage (%)
Gender		
Male	23	52.2
Female	21	47.7
Total	44	100
Marital Status		
Single	11	25
Married	33	75
Total	44	100
Age		
26 – 30	4	9.0
11- 35	19	43.1
Greater than 36	21	47.7
Total	44	100
Year of Experience		
Less than 6 Years	3	6.8
6 – 10 Years	25	52.2
11 – 15 Years	15	34.0
Greater than 20 Years	8	18.1
Total	44	100
Highest Qualification		
Bsc/BLIS	3	6.8
Msc/MLS	32	72.7
Phd	9	20.4
Total	44	100
Designation		
Professor	1	2.2
Principal Librarian /Associate prof	3	6.8
Senior Librarian/Senior Lecturer	13	29.5
Librarian I/Lecturer I	12	27.2
Librarian II/Lecturer II	13	29.5
Assistant Librarian/Assistance Lecturer	2	4.5
Total	44	100
University		
University of Agbor, Delta	17	38.6
Federal University of Petroleum Resources	27	61.3
Total	44	100

Source: Authors' Fieldwork Survey (2026)

Table.1 shows that majority of the respondents 23(52.2%) were male and 21 (47.7%) were female while 33(75%) married. Also, the table shows that majority of the respondents 21 (47.7%) were within the age range of 36 and above. Indicating that majority are within the age range. More so, the table shows that majority of the respondents 25 (52.2%) has spent between 6 to 10 years in services, meaning that they have understanding on library activities. Furthermore, the Table shows that majority of the respondents 32(72.7%) has Msc/MLIS, 13 (28.5%) were senior lecturer/ senior librarian and Librarian II/ lecturer II respectively.

Objective 1: High-tech skills used among the librarians in selected university in South-South, Nigeria

Table 2: High-tech Skills Used (N=44)

High-tech Used	Federal University of Petroleum Resources	University of Delta Agbor	Total of Respondents	%
Using an Integrated Library System (Virtual/Alice for Windows etc)	21	12	33	(75%)
Microsoft word (Word Processing Skills)	24	14	37	(86..3%)
Web Searching Skills	19	11	30	(68.1%)

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Use of Digitization Software	20	9	29(65.9%)
File management/operating system navigation skills	7	2	9(20.4%)
Citing and evaluating Internet resources	11	6	16(36.6%)
Creating & updating institutional OPAC	7	1	8(18.1%)
Use of Digital Camera for Digitization	13	6	19(43.1%)
Web navigation Skills	6	2	8(18.1%)
CD-ROM/DVD Search	5	1	6(13.6%)
Microsoft Access (Database management skills)	20	8	28(63.6%)
Scanners and similar devices	15	6	21(47.7%)
Troubleshooting technology	11	4	15(34.0%)
Microsoft Excel (Spreadsheet Skills)	22	12	34(77.2%)
Power point (presentation software)	24	14	38(86.3%)
Searching library databases	13	11	24(54.5%)
Installing Printer, scanner and computer	3	1	4(9.0%)
Installing software	4	1	5(11.3%)
Instant messaging	4	0	4(9.0%)
Graphic Design	0	1	1(2.7%)
Web design	1	0	1(2.7%)
Network management	2	0	2(4.5%)
Creating online instructional materials/products	5	1	6(13.6%)
Use of PDF Software	19	12	31(70.4%)
Blogging	1	0	1(2.7%)
Connecting patrons laptop to the library wireless	6	6	12(27.2%)
Computer security knowledge	2	1	3(6.8%)
Computer programming	2	2	4(9.0%)

Source: Authors' Fieldwork Survey (2026)

Table 2: Show high-tech used by the respondents. The study indicated that, 38(86.3%) of the respondents used Microsoft word and power point presentation while 34(77.2%) used Microsoft excess whereas, 33(75%) of the respondents used integrated library system, 31(70.4%) used PDF software, 30(68.1%) used web searching skills, 29(65.2%) used digitised software and 28(63.6%) used micro soft access databased. Meanwhile, network management, computer security knowledge, blogging, graphic design and creative online instructional materials/products, instants messages were the least high-tech skills used by the respondents.

Objectives 2: High-tech skills training attended

Table 3: High-tech Training Attended (N=44)

S/N	High-tech Skills Training Attended	Federal University of Petroleum Resources	University of Delta, Agbor	Total (%) of respondents
1	Word processing skills	18	13	31(70.4%)
2	Data based management skills	21	9	30(68.1%)
3	Microsoft Excel	23	13	36(81.8%)
4	PowerPoint skills	22	10	32(72.7%)
5	E-mail management skills	7	4	11(25%)
6	Web Searching Skills	6	2	8(18.1%)
7	Use of Digitization Software	19	8	27(61.3%)
8	Using an Integrated Library System (Virtua/Alice for Windows)	21	5	26(59%)
9	Use of Digital Camera for Digitization	4	2	6(13.6%)
10	Searching library databased	9	5	14(31.8%)
11	Citing and evaluating Internet resources	7	3	10(22.7%)
12	Installing printing, scanner and computer system	5	2	7(15.9%)
13	Network management	0	0	0(0%)
14	Computer programming	0	0	0(0%)
15	Graphic design	0	0	0(0%)
16	Web navigation skills	1	0	1(2.7%)

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17	Install software	3	1	4(9.0%)
18	Computer security management	0	0	0(0%)
19	CD-ROMs/DVD searching	4	1	5(11.3%)
20	Creating online instructional materials/products	0	0	0(0%)
21	Blogging	0	0	0(0%)
22	Wiki	0	0	0(0%)
23	Troubleshooting technology	3	0	3(6.8%)
24	Troubleshooting printing problem	2	0	2(4.5%)
25	Teaching others to use technology	1	0	1(2.2%)

Source: Field Work Survey, (2026)

Table 3: Show high-tech training attended among the librarians, which indicated that, 36(81.8%) of the respondents attended micro software excel training, while 32(72.7%) attended power point training, whereas 31(70.4%) indicated word processing skills, 30(68.1%) databased management, while 27(61.3%) digitised system and 26(59%) integrated library system. Therefore, respondents were not attended the following training, blogging, wiki, creative online constructional, computer security management, computer programming, web navigation, teaching other to used technology, network management, installation software and troubleshooting.

Objective 3: Modality of acquiring IT training among the librarians in selected university in South-South, Nigeria

Table 4: Mode of Acquiring IT Training (N=44)

Place of Training	Federal University of Petroleum Resources	University of Delta, Agbor	Total % of respondents
LRCN training workshop	19	4	23(52.2%)
NLA training workshop	20	9	29(65.9%)
In house training	23	11	34(77.2%)
Self-development	21	12	33(75%)
Professional courses programmes(within Nigeria)	7	2	9(20.4%)
Foreign workshop and training programmes	3	1	4(9.0%)
NGO programmes	1	0	1(2.2%)

Source: Field Work Survey, (2026)

Table 4: Shown modality of acquiring IT training. 34(77.2%) indicated that they benefited from in-house training organised by their libraries, while, 33(75%) indicated self-development, 29(65/9% indicated Nigerian Library Association and 23(52.2%) indicated LRCN.

Objective 4: Identify the obstacles faced by librarians in acquiring and utilising high-tech skills

Obstacles faced by librarians in acquiring and utilising high-tech skills

Table 5: Obstacles Encountered

Challenges	SA	A	D	SD	Weighed Means
Insufficient institutional support	21	22	0	1	3.43
High cost of digitization equipment/software	27	17	0	0	3.61
Poor ICT infrastructure	26	16	2	0	3.54
Technological inefficiency	30	14	0	0	3.68
Inadequate funding	23	12	9	0	3.31
AI integration	29	15	0	0	3.68
Ethical and security issues	18	16	4	6	3.04
Limited training and skill development	23	15	3	3	3.31

Source: Field Work Survey, (2026)

Aggregate Mean 3.45

Criterion Mean 2.50

As seen from the table 5, the grand mean score of 3.41, being greater than the criterion mean score of 2.50, proposes that the university libraries understudy was encountering huge challenges in the acquiring and utilising high tech skills which include technological inefficiency/ AI integration (X=3.68), high cost of digitisation equipment/software (X=3.61), poor



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ICT infrastructure (X=3.54), insufficient institutional support (X=3.43), inadequate funding/limited training and skill development (X=3.31), ethical and security issues (X=3.04),

Discussion of the Findings

Results are organised according to the research objectives. Research objective one revealed the high tech skills used among the librarian in the South-South university libraries understudy which includes, Microsoft word, power point presentation, Microsoft excess, integrated library system, PDF software, web searching skills, digitised software, micro soft access databased. This conforms with Ilesanmi (2023) asserted that librarians conveyed various services to their users, acquired basic ICT skills and were versatile in its application for Internet searches, information retrieval, social communication and Microsoft-office related activities with the exception of programming skills. Supported by Bitri and Akkaya's (2018); Gui and Argentin's (2011) emphasized on the proficient in using search engines, websites, MS Office programs (word processing, presentation, and spreadsheet programs), uploading and downloading files, desktop publishing, web-based learning systems, web page design, database management, and programming, among other digital literacy skills. Research objectives two revealed the high tech training attended by the librarians in the South-South university libraries which include, micro software excel training, power point training, word processing skills, databased management, digitised system and integrated library system. This is in line with Shidi and Nwachukwu (2015) opined that libraries and the mother institutions to get more involved in staff training in various fora such as Microsoft word, excel, power point, skill to download and upload, searching library database, web searching, integrated library software, so that they can develop and enhance their abilities in service delivery.

Research objectives three revealed respondent's modality of acquiring IT training which include, in-house training, self-development, Nigerian Library Association and LRCN. This is in consonant with Chiware (2007), opined on the techniques for training in the digital age, particularly for African university librarians, are workshops or short courses and formal training in library and information science program. Supported by Emiri (2017) and Sambo et al., (2022) asserted that librarians learned digital skills via peer aid, trial and error, information technology courses, and formal schooling. offices organize computer training for staff over time, institutions provide adequate fund for staff training sponsorships, enrolled in private computer and Internet training/ assistance from friends and course mates, I sponsor myself to acquire digital literacy training. Research objective four revealed the challenges encountered by the librarians in acquiring and utilising high tech skills in the university libraries understudy, such as technological inefficiency, high cost of digitisation equipment/software, poor ICT infrastructure, insufficient institutional support, inadequate funding/limited training and skill development, ethical and security issues. This is in line with Ukwoma et al., (2016); and. Okeji et al. (2019) highlighted various obstacles to learning digital literacy, including insufficient funds for professional skill development, a lack of ICT facilities, and a shortage of ICT, absence of ICT facilities, inadequate Internet speed, and the absence of comprehensive digital literacy programs and standards.

Conclusion

It was revealed by the finding of this research that high tech skills such as knowledge of computer security and management of networks, blogging, graphic designing, web design, instant messages, creative online instructions/products are not being used by librarians. Modalities for the acquisition of the training received by the respondents are: in-house training, self-development, Nigerian Library Association, LRCN. As librarians do not only possess some high tech skills, the librarians do also have challenges, which need quick remedies. Contribution of this study is adding to literature and informing readers about the assessment of librarian's high tech skills for excellent service delivery.

Recommendations

Arising from the findings of the study and the conclusion drawn, the following recommendations are put forward:

1. Management should provide adequate training to librarians especially on the aspect of network management, computer security knowledge, blogging, graphic design, web design, instant messages and creative online instructional materials/products, most of the high tech skills claimed not been used among the librarians in the university understudy.
2. University should be committed, support and encourage them to attend professional courses, foreign workshops and non-governmental organization seminar so as to enhance their skills.



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3. Lastly, ICT training and retraining must be mandatory and continuous policy, funding and institutional support be given to the libraries and librarians to enhance their passivity. Especially on AI integration.

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