

**Global Trends and emerging technologies:
Librarian's ICT Competence and the quest to establish ICT based
Library consortium in Nigeria.**

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Abstract

The study was designed to investigate the state of relationship that exists between librarians' ICT competence and the quest to establish ICT based library consortium in University Libraries in Nigeria. The study was carried out with two research purpose, two research questions and two null hypotheses. Related literature was reviewed under the conceptual framework, librarians' ICT competence and utilization of ICT based library consortium. The study adopted correlation research design, purposive sampling techniques was used to sampled 180 respondents sampled from 18 Federal and 18 State Universities in Nigeria, 3 Federal and 3 State Universities from each of the six Geo-political Zone of the Country. The Researcher used five point Likert Scale Questionnaire which was validated by three experts, two in Prince Abubakar Audu University, Anyigba and one in Federal University Lokoja. The reliability of the instrument was established through internal consistency method of reliability. The reliability test conducted on 15 librarians at the Prince Abubakar Audu University, Anyigba showed an overall co-efficient of internal consistency of $r=0.94$. The study adopted statistical mean and Pearson Product Moment Correlation to analyze the research questions and test the hypothesis and findings of the study showed that there is significant relationship between librarians' ICT competence and librarian utilization of ICT based Library consortium in the university libraries in North Central, Nigeria. The relationship between librarians' ICT competence and the quest to establish ICT based library consortium is a moderate positive ($r=0.32$). The relationship between library policy and librarians' ICT competence and the quest to establish ICT based library consortium is a very weak positive relation ($r=0.15$). The two hypothesis tested were rejected.

Keywords: *ICT based Library Consortium, ICT Tools, Policy Framework, librarian' ICT competence, University library, Librarians, Skill*

Introduction

ICT has continued to play vital roles in the modernization of library and information services across the globe, one of the emerging roles is ICT based library consortium. ICT based library consortium is the aggregate of ICT and non-ICT related library activities like Library Networking, information resources sharing, library cooperation interlibrary loan e.t.c. Library consortium represent a situation where group

of libraries and information centres are interconnected for the purpose of sharing what they have in common with certain understanding. ICT based library consortium is a hub of other library routine activities designed and executed with the aide ICT, where there would be exchange, share and transfer of information resources a with the intention and purpose of improving efficiency among the libraries, according to Akpelu, Eruchi Brown (2022) and Saleem, Shabana-Tabusum, & Sadik, (2013), it is a synergy among libraries to address their challenges.

Despite the huge benefits libraries enjoy when they collaborate with each other with the establishment of library consortium, Library consortia development is still at infancy stage in this Nigeria. Ibeun and Obasuyi (2007) gave an account of the effort being put in place for the development of resource sharing by various library and information science stakeholders and amongst such efforts are: John Harris ignited the flame of library co-operation in 1955 by submitting a memorandum to the Nigerian Government advocating for the establishment of a Library Advisory and Consultative Committee for Resource Sharing. In 1974 the National Library of Nigeria initiated a resource sharing and networking scheme which involved the machinery for the establishment of National Union List of Serials (NUSLOS) which eventually took off in 1977. In 1980, in Kaduna, NLN commence "Cooperative Acquisition in Nigeria." In 1980, the Committee of University Librarians of Nigeria Universities agitated for a forum for University Libraries and National Universities Commission now set up National Universities Database, Nigerian University Network (NUNET). Nigerian Universities Libraries Consortium by Committee of University Librarians of Nigerian Universities (CULNU) and NUC National Virtual Library.

In recent time there has been an increasing concern about the application of ICT in running library consortium to enable libraries leverage on the potential in ICT to arrest the rising cost of publication and subscription rates of online journals. However, Akparobore (2013) and Oyovwe-Tinuoye, G. O., Omeluzor, S. U., & Patrick, I. O. (2021) believed that academic librarians in Nigeria lack the higher and advanced ICT expertise, skills and competence. And advanced ICT expertise, skills and competence is needed to leverage on the potentials of ICT to turn around the fortune of the library in services provision by establishing ICT based library consortium. Therefore, this study investigated the relationship that exists between librarians' ICT competence, expertise, skills and the quest to establish ICT based library consortium. The findings from the study would be of significant value to librarianship in Nigeria because it will identify the needed ICT skills and competence for the establishment of ICT based library consortium in Nigeria. The study will also indicate the role library policy can play in the establishment of ICT based library consortium and it will lead to capacity building in the area of ICT skill and competence for ICT based library consortium.

The study was limited to the competence on operation of computers, creation of files and folders, radio frequency identification, library automation software modules, sharing and transferring information resources across many platforms, various operating systems, internet-related skills, web design/web editors, email services, search engines and digitization of library materials.

The main objectives of the study was to find out the state of relationship that exists between librarians' ICT competence and the quest for the establishment of ICT based library consortium in university libraries in Nigeria, specifically, to determine if librarians' ICT competence correlates with the quest for establishment of ICT based library consortium and to also part of the objectives of the study to find out the relationship that exists between Library policy and Librarians' ICT competence and the quest to establish ICT based library consortium in University Libraries in Nigeria.

However, the research questions for the study are; what relationship exists between librarians' ICT competence and the quest to establish ICT based library consortium in University Libraries in Nigeria? And what is the relationship that exists between Library policy and librarians' ICT competence and the quest to establish ICT based library consortium in University Libraries in Nigeria?

Literature review

Librarian's ICTs Competence and Skill for the establishment and utilization of ICT based Library consortium

Some scholars have studied various aspects of Librarians' ICT Skills and Competence for library service and some of these research studies will be discussed here.

Librarians' ICT competence plays a major role in information/knowledge organization, retrieval, transfer and dissemination in modern day librarianship. Librarianship is going through an era of constant and increasing innovation in the use of ICT tools which has made it mandatory for librarians to continually seek to improve and update their ICT competence. CARL (2010) defined competencies for a profession as “a list or group of a series of knowledge, skills, abilities, and behaviours that define and contribute to performance.”

ICT-based library consortium is that kind of library that leverages ICT to enhance the sharing of resources, services, and expertise among member libraries. The literature review explores wide range of recent literature that speak directly on this subject matter. Digital literacy remains a foundational skill, essential for librarian to effectively navigate and utilize digital platforms and tools to offer information resources sharing in library consortium. Digital literacy encompasses the ability to use digital tools, software applications, and online resources (Lai & Hong, 2021). Just as Smith & Jones, 2022 advanced that computer skills are crucial for accessing digital catalogs, managing digital documents, and communicating within the consortium.

Proficiency in Library Management Systems (LMS) is critical for managing library operations and ensuring efficient resource sharing within the consortium. Based on this accretion Nguyen & Clark, 2023 and Green & Roberts, 2020 identified knowledge of LMS like Koha and Ex Libris Alma enhances cataloging, acquisitions, and circulation management which will improves interlibrary loan processes and resource discovery in ICT based library services including library consortium. Understanding metadata standards and data curation practices is critical for maintaining consistency and

interoperability of shared resources. Familiarity with standards like MARC, Dublin Core, and MODS is essential for accurate resource description, location, sharing, accessing and discovery because they ensure effective utilization of information resources, data curation, and preservation of digital resources (Taylor & Morris, 2020).

Skills in managing digital repositories and CMS platforms are essential for storing, preserving, and disseminating digital resources. According to Miller & Thompson, 2021 knowledge of systems like DSpace and Fedora enhances digital collection management and accessibility and Zhang & Li, 2023 in a study collaborated Miller & Thompson, 2021 when they said that proficiency in CMS like WordPress and Drupal supports the development of user-friendly digital library interfaces. Network management and cybersecurity skills are crucial for ensuring the secure and efficient operation of the library consortium's network infrastructure. Effective network management ensures reliable connectivity and data exchange between member and effective network management provide robust cybersecurity measures protects against data breaches and cyber threats in the library consortium's networking infrastructure (Ahmed & Johnson, 2023 and Kim & Park, 2022).

Skills in database management and SQL are essential for handling large sets of bibliographic data and ensuring data integrity and accessibility. Huang & Patel, 2022 and Wilson & Chang, 2021, articulate that Effective database management supports efficient data retrieval and integration across different library systems and SQL proficiency is necessary for querying and managing library databases, ensuring accurate and timely data access. Proficiency in information retrieval and search technologies enhances the ability to locate and access shared resources effectively and promptly, librarians in depth knowledge of search engines serves a lot Singh & Patel, 2023 and Brown & White, 2021 observed that expertise in federated search systems enables seamless access to diverse resources from multiple libraries and knowledge of search engines and indexing systems improves resource discovery and user satisfaction.

Web development and integration of web services are essential for creating and maintaining online library services which can be used to establish and manage library consortium for resources sharing. Web development skills enable the creation of responsive and accessible digital library interfaces (Gonzalez & Martinez, 2022). Integration of web services and APIs facilitates interoperability and enhances user experience (Wang & Chen, 2024). Skills in digital preservation and archiving ensure the long-term access and usability of digital resources. Understanding digital preservation standards and tools beside the fact that it is critical for maintaining the integrity of digital collections of the library consortium, it also leads to sustainability of digital resources (Hernandez & Williams, 2023 and Nguyen & Lee, 2021).

Library consortium is a huge project that demand some level of expertise in project management. Project management and collaboration tools facilitate coordinated efforts and efficient management of consortium projects. According to Johnson & Smith, (2022) and Anderson & Kim, (2020) collaboration tools like Slack, Trello, Asana and Microsoft Teams enhances communication, promote teamwork, sound project planning and execution among consortium members. Skills in data analytics and reporting support data-driven decision-making and resource optimization within the consortium. Data analytics tools like Tableau and Power BI enable libraries to analyze usage patterns and

improve services (Perez & Robinson, 2021). Data analytics skills has become important skill for the implementation library consortium building. Including the capacity to generate reports and visualizations provides insights into resource utilization and informs strategic planning (Morgan & Lee, 2023).

Method

The study adopted correlation research design. The population of the Study was made up of all academic librarians in Federal and State Universities in Nigeria, purposive sampling techniques used to sample the respondents because of the common characteristics among the respondents and the need to provide the best information to achieve the study's objectives. Through purposive sampling techniques, 180 respondents were sampled from 18 Federal and 18 State Universities in Nigeria, three Federal and three State Universities from each of the six Geo Political Zone of the country. The instrument for Data Collection was questionnaire which was validated by experts and the reliability of the instrument was also established. Pearson Product Moment Correlation was adopted as method of data analysis, computed through Statistical Package for Social Sciences (SPSS, V20). The hypothesis was tested at 0.05 level of significance. SPSS general rules and Cohen's conventions were adopted to interpret the strength of correlation and to determine the direction of relationship and association of the variables. 0.10 - 0.19 = Very weak relationship, 0.20 - 0.29 = Weak relationship, 0.30 - 0.39 = Moderate relationship, 0.40 - 0.49 = Strong relationship, and 0.50 - above = Very strong relationship.

Response Rate

A total of 180 copies of the questionnaire were distributed and 115 i.e., 63.8 % were returned. The response rate of (63.8%) is acceptable in this study because a survey response rate of 50% or higher is often considered to be excellent for most circumstances according to Morton, S.M.B., Bandara, D.K., Robinson, E.M. and Carr, P.E.A. (2012) and Cleave, P (2022).

For this paper to be meaning full it is important to have the data indicating the librarians's ICT competence and also the data for the quest to establish ICT based library consortium before testing the relationship that exist between them

The study concentrated mainly on the statement of the problem, objectives, research questions set by the study.

Answer to research question one was analysed and presented in Table 1

Table 1
Pearson correlation between Librarian’s ICT competency and the quest to establish ICT based library consortium in University Libraries in Nigeria.

		Librarians Quest to establish ICT based Library Consortium	Librarians’ ICT Competency	Remarks
Library Consortium Utilization	Pearson Correlation	1	0.34**	Moderate positive and statistically significant relation
	N	115	115	

****.** Correlation is significant at the 0.05 level (1-tailed).

The data presented in Table 1 show that the direction of the relationship between librarian’s ICT competency and the quest to establish ICT based library consortium is positive (r=0.34). The variables are positively correlated. The variables tend to increase together. The magnitude or strength of the association is moderate and the variables have a statistically significant relation.

Answer to research question 2 were analysed and presented in Table 2

Table 2: Pearson correlation between Library policy and Librarians’ ICT competence and Librarian Quest to establish ICT based library consortium in University Libraries in Nigeria.

		Librarians Quest to establish ICT based Library Consortium	Library Policy & ICT competency	Remarks
Library Consortium Utilization	Pearson Correlation	1	0.35**	Moderate positive and statistically significant relation
	N	115	115	

****.** Correlation is significant at the 0.05 level (1-tailed).

The data presented in Table 2 show that the direction of the relationship between library policy and librarians’ ICT competence for the utilization of ICT based library consortium is positive (r=0.35). The variables are positively correlated. The variables tend to increase together, i.e., change in library policy and librarians’ ICT competence is associated with change in librarians’ quest to establish ICT based library consortium.

The magnitude or strength of the association is moderate and the variables have a statistically significant relation.

Test of hypothesis 1 is presented in Table 3.

Table 3: Significance of relationship between Librarian’s ICT competence and the quest for the establishment of ICT based Library Consortium in University libraries in Nigeria.

		Librarians Quest to establish ICT based Library Consortium	Librarians’ ICT Competency	Remarks
Library Consortium Utilization	Pearson Correlation	1	0.34**	Moderate positive relation
	P-value		0.00	Significant H_0 Rejected
	N	115	115	

****.** Correlation is significant at the 0.05 level (1-tailed).

Hypothesis 1 was analysed with the data presented in Table 3 and it shows that a statistically significant relation (**P-value = 0.01**) exists between librarian’s ICT competence and the utilization of ICT based library consortium in university libraries in Nigeria. Since $\alpha = 0.05$ and **P-value = 0.00**, hence **P-value < 0.05**, the null hypothesis was rejected.

Test of hypothesis 2 is presented in Table 4.

Table 4: Significant relationship between library policy and librarians’ ICT competency on ICT based library consortium in University library in Nigeria.

		Library consortium	Library policy & ICT competency	Remarks
Library Consortium Utilization	Pearson Correlation	1	0.15	Very weak positive Relation
	P-value		0.03	Significant H_0 Rejected
	N	149	149	

****.** Correlation is significant at the 0.05 level (1-tailed).

Hypothesis2 was analysed with the data presented in Table 4 and it shows that a statistically significant relation (P -value = 0.03) exists between library policy and librarians' ICT competence on ICT based library consortium in university library in Nigeria. Since $\alpha = 0.05$ and P -value = 0.03, P -value < 0.05, therefore the null hypothesis was rejected

Findings and Discussion

There is a positive relationship between librarians' ICT competence and their utilization ICT based library consortium in the university libraries in Nigeria. H_01 which stated that there is no significant relationship between librarians' ICT competence and their utilization of ICT based Library Consortium in University library in Nigeria was rejected.

Positive relationship exists between library policy and librarians' competence on the utilization of ICT based library consortium in university libraries in Nigeria. H_02 which stated that there is no significant relationship between library policy and librarians' ICT competency on the utilization of ICT based library consortium in university library in Nigeria was rejected.

Librarians' ICT competence on the utilization of ICT based library consortium

There is a positive relationship between librarians' ICT competence and their utilization ICT based library consortium in the university libraries in Nigeria. H_01 which stated that there is no significant relationship between librarians' ICT competence and their utilization of ICT based Library Consortium in University library in Nigeria was rejected.

Librarians are still working towards developing the necessary ICT competence that will enable them to start up a network server for the utilization of ICT tools for library consortium. The study revealed that librarians in the study area have the competence to manage databases enhances, to scan and retrospectively convert non-electronic information resources, to upload and download information resources, to subscribe to electronic information resources, to generate report and statistics. All these have enhanced librarians' utilization of ICT based Library consortium but there are a lot of ground that needed to be covered in terms of ICT competence among the librarians. The findings of the study, thus, is not in agreement with the findings of Nwabueze & Ibeh (2016), Ojedokun & Victoria (2015), and Nkamnebe, et al (2015) but opposed Adeyoyin (2005) who argued that vast majority of librarians are not skilful in the use of ICT tools in library.

Though, in which ever way, it is clear, in no distance time librarians will not depend on external experts to troubleshoot LAN/WAN and serve as system administrator. Librarians displayed high level competency in the area of managing both online and offline electronic databases, managing and troubleshooting LAN/WAN, scanning and retrospective conversion of non-electronic information and deploying internet and intranet connectivity.

The study affirmed Apfen (2008) position that ICT competency of LIS professionals is a combination of skills, knowledge, and behaviours related to library technologies which are important to the success of parent institutions, personal performances and capacity building.

ICT Competency of library staff is a measure of their capacity to make appropriate use of ICT tools for information selection and acquisition, organization, and storage, retrieval, and dissemination. In reflection to that, Marshall, Taylor & Yu (2003) contend with two type of competencies for librarians: first are professional proficiency which has to do with knowledge of information resources, information technology, leadership and managerial skills and research; and secondly competencies representing a set of skills, attitude and value that emphasize continuous learning throughout librarians' career as well as ability to cope with change.

In situating the relationship between librarians' ICT competence and the utilization of ICT based library consortium, the findings of the study, established relationship between the variables in line with Adewoyin (2017) who said that competency requires of librarians include knowledge of print and electronic information resources. There is hardly any human endeavour which the advent of ICT has not transformed, one of which academic library is not an exception.

Library policy and Librarians ICT competence for ICT based library consortium

Positive relationship exists between library policy and librarians' ICT competence on the utilization of ICT based library consortium in University libraries in Nigeria. H_02 which stated that there is no significant relationship between library policy and librarians' ICT competency on the utilization of ICT based library consortium in University library in Nigeria was rejected. Though, the Pearson correlation was positively low. Meanwhile, Islam and Islam (2007) observed that librarians must develop the competencies to carry out effective searches on the use of ICT tools. And Akparobore (2013) opined that the unavailability of high levels skill labour force is big problem that need to be confronted by all stakeholders in university education, particularly the government, private sector, university governing councils and international donor organizations if academic libraries are to move with time.

The finding of the study is similar to that of Adeyinka (2009) where the author examined the attitudinal correlates of some selected Nigerian librarians towards the use and application of ICT in various libraries. The analysis of results shows that all the four out of the five variables; age, gender, educational qualifications and knowledge of ICT significantly correlate with librarian attitude towards ICT.

The policy framework in University libraries need to be strengthen especially, the aspect of the policy that deal with training of librarians because the frequent changes in ICT tools tend to render previous competence invalid or obsolete the movement there is change or upgrade in such tools.

Implications of Findings

Librarians' ICT competence correlates with the utilization of library consortium, with these implications, the variables tend to increase together i.e., increase in competency is associated with increase in utilization.

The variables are positively correlated, the variables tend to increase together, i.e., change in library policy is associated with change in librarians' ICT competence for the utilization of ICT based library consortium.

The implication of the study on the academic librarians is that all the variables correlated with each other, meaning that an increase in one is direct increase in the other; they should brace up increase in their level of professionalism.

Conclusion

The relationship between librarians' ICT competence and the quest for the establishment of ICT based library consortium is moderately positive and there is significant relationship between library policy and librarians' ICT competence and the establishment of ICT based library consortium in University libraries in Nigeria.

Recommendations

The following recommendations arose from the findings of the study:

- 1) The University Library Management should increase their support for activities that will enhance librarians ICT skill and competence for the establishment of ICT based library consortium.
- 2) The University Library Management should formulate policies which will enhance librarians' ICT competence on for the establishment of ICT based library consortium.

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