

Relationship between Digital Skills of Academic Librarians and Provision of Virtual Access Services and Resources Discovery Services in Federal University Libraries in South-East and South-South Nigeria

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ABSTRACT

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Objective: This study aims to find out the relationship between digital skills of academic librarians and provision of virtual access services and resource discovery services in federal university libraries in south-east and south-south Nigeria. Two research questions guided the study, and two hypotheses were tested.

Methods: A correlational research design was used for the study. The population is comprised of all academic librarians in the area of study. Census sampling technique was used for the study. Digital Skill Cognitive Test was used as instrument for data collection. Data collected was analyzed with the use of Pearson Moment correlation coefficient.

Results: The study found out that there is a low positive relationship between digital skill and provision of virtual access services and resources discovery services. The result also indicates a significant relationship between digital skill and the provision of resources discovery services and access services. The low positive relationship indicates that the influence of digital skills on provision of access services and resource discovery services will be minimal. However, the result of the relationship being significant is an indication that digital skills are necessary in the provision of resources discovery services and access services.

Conclusion: The implication of the study is that to ensure an accurate provision of access services and resource discovery services, Librarians should have the abilities to develop resources discovery tools and approaches. They should also be skilled in digitization processes and creation of websites. The study therefore recommends training and re training of librarians on developing knowledge in providing accurate bibliographic metadata, synchronizing the bibliographic metadata to ensure high quality data provision and having requisite knowledge in web management.

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Introduction

Digital technologies have become a central part of our daily life in the 21st century. Teachers and education staff are forced to rethink and transform previous educational traditions by means of technology. The learning process with the attendant change in educational environment has brought about change in the information users. The nature of today's information users demands a system that will ensure real-time access to information. Academic librarians have a very important role to play, as they have to satisfy the critical multidimensional information needs of their users. The inability of Nigerian libraries to provide real time access to information was observed during the outbreak of COVID-19 and the subsequent lockdown. The health emergency produced by the pandemic highlighted a gap in information resources provision between well technology resourced and technology starved academic libraries.

Atayero (2020) indicated that during COVID-19 pandemic, many university libraries across Europe and America continued to render online services to their users. A good example being the University of Sussex which did not only offer online services, but also provided academic materials made freely available by publishers (University of Sussex Library, 2020). On the contrary literature did not report any Nigeria university library actively involved in providing online information resources to support the online educational activities of their institution during the lockdown (Ifijeh & Yusuf, 2020). University libraries in Nigeria have a lot to learn and adopt from best practices around the world for instance, to design and adopt virtual formats in order to satisfy the information needs of online users.

Virtual libraries consist of materials from a variety of separate libraries that are organized in a virtual space using computers and computer networks. A virtual library involves having access to electronic resources in the university library through electronic/ digital networks such as campus networks or internet without the physical need of the patrons visiting the library. Library leaders and librarians are embracing the potential and practicality of virtual libraries to better serve patrons by providing access to a broader range of information that are available locally and supporting traditional resources sharing among libraries. Virtual library provides virtual library services. Virtual library services are a means of connecting the library to the public via an electronic network or through the internet. Through these services libraries have access to a wide area network from local area networks connecting workstations and printers to wide area networks linking organizations around the globe. Virtual access service is an aspect of virtual library service which provides an avenue for getting the information to the user. Access service involves the provision of access to library resources and collections. Virtual access means open and free access through communication networks to digital resources and services needed for research. It involves digitization, digital repositories and web access. Digitization of library resources involves converting analogue information to a digital format. This is one of the

methods of managing information resources in the new information age, whereby information technology has assisted in making information accessible to people even in their home. Library patrons can also access virtual services through using library website as a link for these services. The website is a web-based tool for worldwide information dissemination. The library web page is the gateway for entering the library and a platform for accessing the e-resources including the e-journals, e-books, etc.

Resources discovery service also an aspect of virtual library service is a single search platform of simultaneously retrieving metadata of database and full data text. Different from general united retrieval, it does not conduct real time external resource retrieval. It only retrieves metadata and full data text of the system (Wang, 2015). They are necessary strategies to ensure e-access through accurate acquisition of information, a detailed trouble shooting procedure and communication guidelines. Library resources discovery service is a new name for the traditional information retrieval system and the best option to ensure easy search and retrieval of the increasing online and print resources in the university libraries (Pal, 2017). To some extent, resource discovery system is the evolution of unified retrieval. It provides a simple retrieval method to search academic literature in a wider range and search out many disciplines and sources like academic press, professional team, data source prior to paper, academic reports of universities and other research institutes, thesis, book abstract and text. It aids in finding research materials of the highest correlation from academic research in the world. Resource discovery service provides users with a variety of tools and approaches for discovering the existence of appropriate resources. These tools are web software that searches journal article and library catalogue metadata in unified index and presents search result in a single interface. These resources discovery software are new technologies in the library, which arise as a result of the increase in online and print resources. Different resources discovery approaches require different levels of technology integration and system interoperability.

This corresponding increase in the use of technology facilities is requiring librarians to have a higher degree of computer skills. To become more active participants and leaders to deliver information in society, there is a need to equip librarians with core competencies and emerging skills required for service delivery in electronic information environment. These skills are not only limited to having knowledge of ICT application but also related to understanding how these can be utilized with a proper blending of traditional library skills. Information professionals should be familiar with new technology for offering digital information services. Despite the need to have digital skills at an organizational and leadership level; its application is scanty. There is lack of apt technological advancement in not just universities but academic libraries. Adesanya and Idowu (2013) identified shortage of digital skilled librarians to manage and maintain the required ICT infrastructure and erratic power supply as part of the challenges faced

by virtual library implementation. However, this study tends to find out the digital skills of academic librarians in providing these services.

Objective of the study

The objective of the study is to find out if there is a relationship between digital skills of academic librarians and the provision of virtual access services and resource discovery services in south-east and south- south Nigeria. The specific objective includes:

1. To find out the relationship between the digital skills of academic librarians and provision of virtual access services in federal university libraries in south-east and south-south Nigeria
2. To find out the relationship between academic librarians' digital skills and provision of resources discovery services in federal university libraries in south-east and south-south Nigeria.

Research Questions

1. What is the relationship between academic librarians' digital skills and provisions of virtual access services in federal university libraries in south-east and south-south Nigeria?
2. What is the relationship between academic librarians' digital skills and provision of resources discovery services in federal university libraries in south-east and south-south Nigeria?

Hypothesis

1. There is no significant relationship between the digital skill of academic librarians and provision of access services in federal universities in south-east and south-south Nigeria.
2. There is no significant relationship between the digital skill of academic librarians and provision of resource discovery services in federal university libraries in south-east and south-south Nigeria.

Materials and Methods

This study employed a correlational study design. According to Bhandari (2021), a correlational research design investigates the relationship between variables without manipulating each factor. The population of the study comprises of 203 academic librarians in federal universities in south-east south-south Nigeria. These universities include University of Nigeria Nsukka, Nnamdi Azikiwe university Awka, Federal university of Technology Owerri, Michael Okpara University Umudike, Federal University Ndufu Alike Ebonyi State, University of Uyo, University of Calabar, University of Port- Harcourt, University of Benin, Federal University of Otuoke

Bayelsa, Federal University of Petroleum, Delta state. Census sampling technique was used for the study. A 20-item researcher made a skill test titled Digital Cognitive Skill Test (DCST) was used for the collection of data. To ensure the reliability of the instrument, it was validated by three experts from Nnamdi Azikiwe University Awka.

The instrument was further subjected to pilot test and Kuder-Richardson Reliability formula 21 (Kr -21) was used for the cognitive test which yielded reliability index of 0.82 The instrument used for the data collection includes a digital skill cognitive test. The Pearson Product moment correlation coefficient was used for the analysis of research questions and hypotheses at 0.05 level of significance. The coefficient (r) and the size of the relationship were interpreted using the interpretation of a correlation by Nworgu (2015) as follows. 0.00 to 0.19 very low positive, 0.20 to 0.39 low, 0.40 to 0.59 Moderate, 0.60 to 0.79 High, 0.80 to 1.00 Very High

Results

Research Question 1: What is the relationship between the digital skills of academic librarians and the provision of virtual access services and resource discovery services in federal universities libraries in south-south and south-east, Nigeria

H₀₁: There is no significant relationship between academic librarians' digital skills and the provision of access services in federal university libraries in south-south and south-east, Nigeria.

Table 1. Pearson Correlation of Academic Librarians' Digital Skills and Provision of Access Services

		Digital Skills	Access Services
Digital Skills	Pearson Correlation	1	.180*
	N	140	140
Access Services	Pearson Correlation	.180*	1
	N	140	140

*. Correlation is significant at the 0.05 level (2-tailed).

Results of the Pearson correlation in Table 5 indicated that there is a low positive relationship between librarians' digital skills and the provision of access services in federal university libraries in south-south and south-east, Nigeria, ($r(140) = .180$). The result also indicates that there is a significant positive relationship between Academic Librarians' Digital Skills and the Provision of Access Services, the calculated ($r = .180, p = (.033)$). Is less than the 0.05 significance level. Therefore, the null hypothesis that there is no significant relationship between academic librarians' digital skills and provision of access services in federal university libraries in south-east and south-south Nigeria is, rejected.

Research Question 2: What is the relationship between academic librarians' digital skills and the provision of resource discovery services in federal universities libraries in south-south and south-east, Nigeria?

H02: There is no significant relationship between academic librarians' digital skills and the provision of resource discovery services in federal university libraries in south-south and south-east, Nigeria.

Table 2: Pearson Correlation of Academic Librarians' Digital Skills and Provision of Resource Discovery Services

		Digital Skills	Resources Discovery Services
Digital Skills	Pearson Correlation	1	.169*
	N	140	140
Resources Discovery Services	Pearson Correlation	.169*	1
	N	140	140

*. Correlation is significant at the 0.05 level (2-tailed).

Results of the Pearson correlation in Table 2 indicated that there is a low positive relationship between librarians' digital skills and resource discovery services in federal university libraries in south-south and south-east, Nigeria, ($r(140) = .169$). The result also indicated that there is a significant positive relationship between Academic Librarians' Digital Skills and the Provision of Resources Discovery Services, the calculated ($r = .169$, $p = .046$). Is less than the 0.05 significance level. Therefore, the null hypothesis that there is no significant relationship between academic librarians' digital skills and the provision of resource discovery services in federal universities in south-east and south-south Nigeria is rejected.

Discussion

The findings of the study in research question 1 and Hypothesis 1 as reflected on table 1 revealed that there is a low positive relationship between librarians' digital skills and the provision of access services in federal university libraries in south-south and south-east, Nigeria. The result also indicated that this relationship is significant. Considering that it is low but positive is an indication that its influence on the provision of access services will be minimal. The result of the relationship being significant indicates that despite the low relation, there is a need for academic librarians to possess digital skill for the effective provision of access services. In other words, the decrease in the digital skills of these academic librarians can influence the provision of access services. This finding supports Akande (2014) that examined ICT skills of library personnel and observed that librarians lacked skills for advanced web-based ICT package, web page design,

troubleshooting and project management, this has affected the provision of access services. Also, Ayogu and Okafor (2015) conducted a study on digital skills of librarians in Nigeria and indicated that the librarians' inabilities in processing data base management and web design application has affected the provision of access services in some libraries.

The analysis of research question 2 and hypothesis 2 as reflected in table 2 indicated that there is a low positive relationship between academic librarians' digital skill and provision of resources discovery services in federal universities libraries in south-east and south-south Nigeria. The result also indicated that this relationship is significant. Considering that it is low but positive is an indication that its influence on the provision of resources discovery service will be minimal. However, the result of the relationship being significant is an indication that despite the low positive relation, digital skills are necessary in the provision of resource discovery services. The result of the relationship being significant supports Baro, Obaro & Aduba (2019) findings on the digital skills possessed by library and information professionals in university in Africa. They exposed the fact that the librarians' skills in metadata development and library website were rated to be weak and low as such this has affected resources discovery services and information delivery. In other words, the decrease in the digital skills of these academic librarians can influence the provision of resource discovery services.

Conclusion

This study investigated the relationship between digital skills of academic librarians and provision of virtual access services and resources discovery services in federal university libraries in south-east and south-south Nigeria. Based on the research findings of this study, conclusions are drawn as follows; there is a low positive relationship between academic librarians' digital skills and provisions of virtual access services and resource discovery services in federal university libraries in south-east and south-south Nigeria. This implies that its influence on provision of virtual access services and resources discovery services will be minimal. There is also an observed significant relationship between digital skill and the provision of resources discovery services and access services. This indicates that though there exist a low positive relation between digital skill and provision of virtual access services and resources discovery services, however possession of digital skill is needed for an effective provision of virtual access and resources discovery services.

Recommendations

1. University library management should ensure continuous training and re-training of academic librarians to acquire more digital skills needed for the provision of virtual access services and resources discovery services. The training should be geared towards developing knowledge and understanding on the provision of accurate bibliographic

metadata, synchronizing the bibliographic metadata to ensure high quality data provision. Also, university library management should ensure adequate funding for installation and subscription of licensed packaged resource discovery software's.

2. Librarians should be encouraged to develop the necessary skills of carrying out the digitization processes and adequate training in web development and management.
3. These trained librarians should be fully involved in all the activities geared towards the provision of these services. This can be handled by assigning daily routine work that involves the use of these facilities. Continuous use and practice will make them perfect.

Author Contributions

All authors contributed equally to the conceptualization of the article and writing of the original and subsequent drafts.

Data Availability Statement

Data available on request from the authors.

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Ethical considerations

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Conflict of interest

The authors declare no conflict of interest.

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