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Awareness And Adoption Of OPAC Among Students For Enhanced Information Retrieval: A Survey Of University Libraries In Katsina State

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ABSTRACT

The study investigated the awareness and adoption of OPAC among students for enhanced information retrieval: A survey of university libraries in Katsina State. The study was guided by seven specific objectives and their corresponding research questions that are in line with the main objective. The facilities employed to access OPAC, the extent of awareness of OPAC, and the search methods used in retrieving information from OPAC. The study adopted a descriptive survey research design. The population of the study comprised 17442 students from the three universities in the state. The sample size of 375 was based on the Krejcie & Morgan table for determining sample size. Proportionately, 375 questionnaires were administered to collect the data and 346 were filled and returned. The instruments for data collection were an observation checklist and a questionnaire titled Awareness and Adoption of Online Public Access Catalogue in Libraries (AOPACQ). The observation checklist as an instrument was designed to elicit information on the facilities employed for the use of OPAC. The data gathered were analyzed using frequency count, percentage, mean, and standard deviation. Major findings of the study revealed that the facilities employed to access OPAC were mostly a computer system, power supply, internet service, and conducive environment. The students are aware of the system and can be searched through author, title, and subject of interest, accession number of the resources, and ISBN/ISSN of the material. Challenges such as lack of confidence in using OPAC, lack of required skills, insufficient time, unstable power supply, fewer computers, and uncertainty of internet connectivity among others, are some of the challenges faced by students. The study recommends that the library management should organize periodic meetings, seminars, workshops, lectures, symposiums, etc. for awareness and use of OPAC among students and academic staff needs to be tutored by experts on OPAC issues. This will go a long way toward improving the work and meeting the objectives of the institution.

Keywords: Libraries, Online Public Access Catalogue, information retrieval

INTRODUCTION

Libraries are regarded as institutions where collections of prints and non-prints are systematically organized for consultation. They provide a unique function in order to provide easy access to information through proper selection, organization, and storage for easy accessibility. The contribution that a library makes to the intellectual development of individuals in a society and to the realization of educational objectives cannot be overemphasized as they occupy a noticeable position in the educational institution. It is indeed the heartbeat of the educational system, and therefore its role is essential. As institutions, the library satisfies the basic information and bibliographic needs of students, staff, and researchers in their general and special intellectual fields through the provision of a wide range of materials, including books, magazines, newspapers, audio-visual materials, and digital resources.

Academic libraries in particular, are kinds of libraries that are found in institutions of higher learning that support teaching, learning, and research activities of the parent body where the library is situated. It is therefore, considered as integral parts of colleges, universities, and all post-secondary levels of education to meet the information and research needs of the courses offered in the institution (Reitz, 2004). Reitz further describes the university library as a system established, administered, and funded by the university to support the curriculum needs of staff, students, and researchers. They are considered one of the information centers that are charged with the responsibilities of selecting, acquiring, processing, organizing, storing, preserving, and disseminating information to their potential users.

In an effort to cater for the needs and functional information resources in different formats as well as systematic organization of the information sources to facilitate easy access, retrieval, and use by the library patron, libraries use a cataloguing system to facilitate these processes. The traditional catalogue has now been transformed to OPAC as a result of the introduction of computer technology and ICT facilities in library operations. ICT drivers like the OPAC offer flexibilities in the retrieval of information as well as enhanced easy access to information resources (Omekwu and Juliana, 2019). It is a system that serves as a tool for information retrieval.

In the 21st century, the provision of information services in academic libraries is handled and managed by incorporating OPAC into library services. OPAC is an acronym for Online Public Access Catalogue, which was introduced in 1975 to replace the card catalog. It is simply a computerized catalog that can be expressed as a bibliographical database of the holdings of a library collection (Okafor and Ukwoma, 2010). Therefore, it can be seen as a computerized version of the traditional catalog that gives users access to library holdings via the internet using author, title, subject, and series as access points. OPAC contains all the bibliographic information of materials available in the library. With the development of OPAC libraries started offering online access to their catalogs and ensure that students are aware of the services rendered through OPAC.

Awareness of OPAC is the degree to which the users are familiar with the facility. It is seen as knowledge about an object or event, the abilities and methods of task that have to do with the background knowledge about certain phenomena (Song, Buba and Song, 2018). It can be seen as a state of knowing that something exists or happening. It is also regarded as the first stage of adoption of new invention because it enables the students to recognize the importance of the OPAC and subsequently adoption. Libraries may also integrate other discovery layers and search interfaces to enhance the retrieval of information in the digital age.

Information retrieval is primarily concerned with the structure, analysis, organization, storage, searching, and retrieval of information. It is a process or device that helps library users find, obtain, and use necessary documents, information, or books from the library collection (Edom, 2012). This means having the means to produce the desired effect in information retrieval services, which leads to the user's satisfaction. Information retrieval from this perspective discusses practical strategies that enable OPAC users to search for information in documents. It allows users to search for books and other library resources. Other tasks in information retrieval include assisting users in browsing documents. This shows that OPAC users can quickly search for materials. Furthermore, it portrays that users can instantly see if

an item is available for borrowing or if it's currently checked out by someone else, and it allows users to refine their searches and retrieve more precise and relevant results using Boolean operation (Itunu, Saturday, Glory, and Aluko, 2014). OPAC makes it possible for users to efficiently and precisely access and discover information.

To this end, it is clear that library services now succeed with modern technologies like OPAC and it is undoubtedly being regarded as online database of materials held by a library or group of libraries that provides a platform for students to search for and locate books and other information materials. This is the reason why academic libraries in Nigerian and particularly those in Katsina State have subscribed to it. It is in line with this, the researcher decided to undertake the study to find out the extent of awareness and facilities employed to access OPAC and to explore the challenges related to using OPAC in retrieving information by the students in academic libraries in Katsina State.

Statement of the Problem

The primary responsibility of any library is to make information sources accessible to different categories of users at an appropriate time without any hitch or hindrance. Academic libraries globally have technologically advanced in employing various approaches such as OPAC to enhance information retrieval among their users. OPAC serve as an instrument of change in today's libraries. It contains all the bibliographic information of library collections developed for effective retrieval of information and serves as a reliable information retrieval tool for both print and digital information sources available at a given point in time (Mulla and Chandrashekara, 2009). Students in Universities are expected to utilize this kind of resource to retrieve relevant document of their choice for effective research. However, despite the availability and the benefits of using the OPAC for information retrieval, the question then arises whether students in the universities under study have embraced the use of OPAC properly. The consequences of poor or low usage of OPAC among the students in Universities result in a waste of resources and time especially and it creates too much burden for the library staff. To this end, the researcher derived from the issues observed to carry out this study to investigate the level of awareness and adoption of OPAC among students for enhanced information retrieval in academic libraries in Katsina State.

Objective of the Study

The primary objective of the study is to investigate the awareness and adoption of OPAC among students for enhanced information retrieval. While the following specific objectives guides the study:

- 1 To identify the facilities employed to access OPAC by students in university libraries in Katsina State.
- 2 To find out the extent of awareness of OPAC among students for enhanced information retrieval in university libraries in Katsina State.
- 3 To ascertain the search methods used by students of university libraries in Katsina State in retrieving information from OPAC.
- 4 To determine the extent to which OPAC is used by students for enhanced information retrieval in university libraries in Katsina State.
- 5 To determine the extent to which the use of OPAC contribute to enhanced information retrieval in university libraries in Katsina State.

Literature Review

Concept and Significance of University Libraries

In a society, the library provides a unique function that should be easy access to information through proper selection, organization, and storage in order to make it accessible. A library has been described as a store that stocks different categories of recorded knowledge for public consumption in a legal and ethical manner (Aina, 2004). Aina further described it as institutions responsible for the collection, processing, and preservation of verified knowledge for the purposes of reading, studying, and consulting. The library occupies a noticeable position in the educational institution. It is indeed the heartbeat of the educational system, and therefore its role is essential. However, the library is a teaching and research

center if sufficiently furnished, as well as an integral and essential part of any academic institution where there is formal education, learning, and research (Theresa, 2006). It satisfies the basic information bibliographic needs of students, staff, and researchers in their general and special intellectual fields through the use of organized information media.

University library is a library that is established, funded, and managed by an academic institution, such as a university, in order to meet the information needs of its users. The importance of libraries in the Nigerian educational system cannot be overemphasized, as they serve as hubs of academic communities that are basically established to provide information in different media. They contain print and non-print resources, and their main aim irrespective of their type, is to make sure that information sources are available and accessible. The major objective of an academic library is to select, acquire, and disseminate the relevant resources that ensure the success of the core mandate of the university (Reitz, 2004). In line with this, academic libraries are part of the institutions set up, as they are established at the same time as the institutions. Therefore, it was established in order to support the objectives of the institutions (Ike, Amadi, Madu, Iheagwam, Iheanacho and Nwagu, 2023). They are integral parts of higher institutions of learning that support teaching, learning and research endeavors.

University libraries in Nigeria cashed in on the opportunity presented by the World Bank project organized and executed by the National University Commission (NUC) in the 1994/95 session to kick-start seriously their automation projects (Bozimo in Aliyu, 2015). NUC donated computers to university libraries in Nigeria and encouraged them to acquire the TINLIB software for their automation project, in which OPAC is included. This software did not carry the universities far, as most of them abandoned it early in their projects for other software. The reason for this was a lack of adequate maintenance, support, and technical guidance.

Online Public Access Catalogue (OPAC)

The development of information and communication technology (ICT) in recent times and the subsequent integration of library services have made access to library collections more easy and convenient. An OPAC is an online retrieval tool held by a library or group of libraries. It is an information retrieval tool that contain short bibliographic records for mainly books, journals, audio-visual, and non-book materials available in a library. (Narayanaswamy, 2019). It is an information retrieval system consisting of a database of bibliographic records describing the books and other materials owned by a library or library system (Eserada and Okolo, 2019; Samaila, Umar, and Sani, 2020; Fabunmi and Asubiojo, 2013; Ogbole and Atinmo, 2017). OPAC is also an interface for information retrieval systems that assists information searchers in accessing the resources of libraries using several access points and it serve as a tool designed to facilitate information retrieval process in this new age.

The integration of OPAC as tool for information retrieval provides great flexibility and numerous options for users to access information pertaining to library resources by combining two or more bibliographic fields or access points (Kumar and Vohra, 2013). Basically, the purpose of the OPAC is to create a database of library holdings that provides an online catalogue to help users identify and search for resources. Today, a large number of libraries have automated their operations and services using this technology to fulfil their users' needs. The OPAC is accessible online regardless of geographical location, which makes it convenient for remote users, or via work stations usually concentrated near the library reference desk to make it easy for a user to request the assistance of a trained reference librarian (Samaila, Umar, and Sani, 2020).

With the advent of OPAC as library management software, information resources can be searched in multiple ways, such as title, author, subjects, publisher, keyword, call number, ISBN, date, and place of publication (Gohain and Siakia 2013; Fati and Adetimirin, 2015). Basic search is useful when a user knows the facts about an author, title, subject, series, call number, and heading, while keyword search is useful when a user does not know the facts about an author, title, and subject heading.

OPACs have undergone significant changes. Each change is accompanied by new features. The third generation of OPACs incorporates features that are characterized by the facilities of the World Wide

Web. Some key positive effects of OPAC in library services and management include the following based on its functions (Ukpebor, 2012). These effects include:

- i. Facilitates extraction of relevant documents or information from a large collection of documents in response to a user's request
- ii. Provides different search elements: by author, title, subject, call number, classification number, series, International Standard Serial Number (ISSN) and International Standard Book Number (ISBN). In addition, it is used to locate books, to find non-print materials, to find out whether required information resource is available in the library or not, to compile bibliography of books on a particular subject and to check the number of copies in library stock.
- iii. Provides wider access, since users can retrieve information from any participating library or even search online from their home computer;
- iv. Provides the public with direct access to a library bibliographic database through the use of terminal searchable through a variety of access points greater than those available through card form catalogue;
- v. Is searchable with a common command language, which may be transferred when the public moves from one library to another;
- v. Display search result in readily understandable form;
- vi. Provides useful link to different databases and multiple users can query the database simultaneously.

The Online Public Access Catalogue has brought huge changes to library practice by supplementing the traditional card catalog system with a computerized system. It has made the information resources in the library easily and quickly accessible to users by breaking the physical boundaries of the library by allowing students to use search strategies that enhance the retrieval of information.

Information Retrieval

The process of extracting information from a large amount of data, generally from databases, documents, web pages, or other sources, is known as information retrieval (Asadnia, Cheshmeh-Sohrabi, Shabani, Asemi, and Demneh, 2023). The goal of improvements in this area is to make retrieval more efficient and user-friendly. Asadnia and others also list several crucial elements and methods used in enhanced information retrieval, which include Natural Language Processing (NLP), Entity Recognition and Extraction, Multimodal Search, Deep Learning, Feedback Mechanisms, Knowledge Graphs and Contextual Search. In research communities, the word "information retrieval" first appeared in 1961 after being invented in 1952 (Aruleba, Akomolafe, and Afeni, 2016). The organizational function of information retrieval was considered a significant advancement as millions of people engage in information retrieval to search their e-mails. Therefore, library users need to be aware of OPAC as information retrieval tools that enhances effective utilization.

Awareness of OPAC among Students in Universities

Awareness, defined as the consciousness of some knowledge about a situation or fact, is the ability to directly know and perceive, to feel, or to be cognizant of events happening in a place or space. It can be referred to as understanding the activities of others, which provides context for your own activity (Uche and Udo-Anyanwu, 2019). Awareness can also be viewed as the act of knowing something, which is an essential factor that determines use. In the context of this study, awareness of the OPAC refers to having knowledge or an idea of the availability of the system in the library for use by students to facilitate easy accessibility and retrieval of needed information for the purpose of learning and research.

Recently, most academic libraries in Nigeria have joined their counterparts in advanced countries in the use of computers for processing library collections. They have automated their technical operations and services (David-West and Angrey, 2018). Therefore, OPAC is one of these means that facilitates easy access to information in university libraries and it makes provisions for Boolean combinations for the advanced search to facilitate effective use of OPAC.

Use of OPAC by Students in Universities

Use simply means the extent to which people are accepting whatever resources are readily available in the system. This term refers to the act of exploiting a resource or service to satisfy needs and utilization as the appropriate use of acquired information (Uhegbu, 2007; Aju and Foti, 2020). According to them, utilization of resources means taking full advantage of available resources. Effective use of OPAC by students in libraries enhances knowledge and the quality of research output. The use of OPAC by library users depends largely on the extent to which they are aware of its availability and the impact of its use (Gana, Ajibili, and Abel, 2019). The extent of use determines the quantity and quality of information obtained and, consequently, the research output. Therefore, tertiary institutions have step up awareness campaign while some are still lagging behind (Yusuf, 2012; Shorunke, Eluwole, and Gbenu 2014). The use of OPAC seems to be challenging among university students due to uncountable factors.

Challenges associated with the Adoption of OPAC

The factors that hindered the students from effectively and efficiently accessing and using certain information resources may differ from one library to another. The major factors affecting students use of OPAC include lack of skilled personnel, user education, maintenance, inadequate ICT skills, unreliable power supply, limited number of computers with internet access, inadequate searching skills, lack of adequate funds to support OPAC project in libraries, lack of awareness, difficult user interface design, and user convenience/satisfaction with OPAC use (Ogbole and Atinmo, 2017; Gana, Ajibili and Abel, 2019). Similarly, difficulty in conducting searches on OPAC and differences in OPAC interface design on library website are part of the factors affecting proper use of OPAC (Mustapha, Muhammad, & Ibrahim, 2023). Therefore, there is a need for the stakeholders to focus on the strategies needed to address the challenges in university libraries.

Strategies for Improving the Use of OPAC

The strategies are methods used to effectively use the OPAC to access information resources in a library. Librarians should assist users to exploit the OPAC using different search engines and inform them of the web sites available through the various networks (Kaur and Sharda, 2010). The libraries should intimate or educate the students at orientation programs and train them at different levels such as the beginning of semester. The content of training programs should include basic introduction to library services and facilities, the use of OPAC, methods and tools for searching for information resources, the use of the Internet, and the use of online and CD-ROM databases. Educating library users on these important aspects will go a long way toward curbing the challenges they face each day in searching for and using library resources. Similarly, high-quality user education, demonstrations on the use of the catalogue, and guidelines on the use of the catalogue are solutions to the problems encountered by students in using the catalogue (Ebiwolate, 2010). Considering the challenges encountered by library users in most libraries, a proper user education program on the use of catalogues for retrieval of books and other information sources is imperative and should be made mandatory for all users. Such a program should be coordinated by the university librarian and other qualified librarians at the university.

METHODOLOGY

A descriptive survey research design was adopted for this study. A descriptive survey aims at collecting data on a given population and describing in a logical order, the characteristic features or facts about a given population (Mole, 2019). This design is considered appropriate for this study because it is quantitative in nature dealing with the large sample size. The study was carried out in Katsina State. The population of the study consist of 17,442 registered library users across the university libraries in the state (FUDMA, UMYUK & ALQALAM University). The sample size of the study is 375 students of universities under investigation. The sample size was based on the Krejcie & Morgan table for determining sample size. Furthermore, the researcher used checklist and a questionnaire for data collection. Descriptive statistics that comprises Mean and Standard deviation was used to analyze the

research data with 2.5 Score as a bench mark for high indication of each of the items of the instrument. Thus, any item with a mean rating of 2.5 and above will be considered acceptable.

DATA ANALYSIS AND INTERPRETATION OF RESULT

This section report on the data gathered from the study. It begins with the first research question to last.

Research Question 1: *What are the facilities employed to access OPAC in university libraries in Katsina state?*

Table 1: Observation Checklist on the Facilities Employed to Access OPAC in university Libraries in Katsina State

S/n	Items	UMYUK		AUK		FUDMA		Overall		RMK
		A	NA	A	NA	A	NA	A	NA	
1	Computer system	√		√		√		3(100%)	0(0%)	A
2	Power supply	√		√		√		3(100%)	0(0%)	A
3	Local Area Network (LAN)	√		√		√		3(100%)	0(0%)	A
4	Search Engines	√		√		√		3(100%)	0(0%)	A
5	Library Management Software	√		√		√		3(100%)	0(0%)	A
6	Internet service	√		√		√		3(100%)	0(0%)	A
7	Metadata standard (Machine Readable Catalogue MARC)	√		√			√	2(67%)	1(33%)	A
8	Conducive environment	√		√		√		3(100%)	0(0%)	A
9	Database of library collections		√	√		√		2(67%)	1(33%)	A
Total		8(89%)	1(11%)	9(100%)	0(0%)	8(89%)	1(11%)			

Keys: A= Available; NA= Not Available

The result presented in Table 1 showed that nine (9) facilities employed to access OPAC in university libraries in Katsina State are listed in the table. An aggregate of nine (9) facilities employed are available in university libraries in Katsina State. Also, the researcher observed that in UMYUK, Katsina, 8 (89%) were available, while 1 (11%) was not available. In AUK, 9 (100%) were available. For FUDMA, 8 (89%) were available, while 1 (11%) was not available. This revealed that almost all the facilities were available in the university libraries under study, which include a computer system, power supply, internet service, and a conducive environment, among others.

Research Question 2: *What is the extent of awareness of OPAC among students for enhanced information retrieval in university libraries in Katsina State?*

Table 2: Mean Responses of the Respondents on the Extent of Awareness of OPAC by Students for Enhanced Information Retrieval in university Libraries in Katsina State

n=346

S/n	Item statements	X	SD	Decision
10	OPAC is available and in use in library	2.87	0.96	A
11	Information can be searched through author	2.50	1.15	A
12	Information can be searched through title	2.55	1.06	A
13	Information can be searched through subject of interest	3.27	0.82	A
14	Information can be searched through accession number of the resources	3.10	0.87	A
15	Information can be searched through ISBN/ISSN of the material	2.63	1.03	A
16	OPAC is searchable through keyword	2.59	1.09	A
17	OPAC is a database in the library	2.89	0.96	A
18	OPAC can be used to know the position of library holdings	2.87	0.99	A
19	OPAC saves users' searching time	3.07	0.86	A
20	OPAC serves as library without wall	2.97	1.00	A
21	OPAC can be used to place requests for library resources	3.08	0.93	A
22	OPAC can be used to reserve library materials	3.01	0.91	A
23	OPAC give easy access to library holdings	3.21	0.93	A
Grand Mean		2.86	0.96	A

The data presented in Table 2 revealed that 14 items on the extent of awareness of OPAC among students for enhanced information retrieval in university libraries have a mean value ranging from 2.50 to 3.27. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all 14 items on the extent of awareness of OPAC among undergraduate students for enhanced information retrieval in university libraries in Katsina State. The table also showed that the standard deviations (SD) of the items are within the range of 0.82 to 1.15 and are highly aware. This indicated that the mean respondents were not far from one another in their responses.

Research Question 3: *What are the search methods used by students in university libraries in Katsina state in retrieving information from OPAC?*

Table 3: Frequency and Percentage Responses of the Respondents on the Search Methods used by Students in University Libraries in Katsina State in Retrieving Information from OPAC

n=346

S/n	Item statements	E Freq. (%)	NE Freq. (%)	Decision
24	It is used through title search	136 (23.1)	210(35.7)	NE
25	It is used through author search	193 (32.8)	153 (26.0)	E
26	By using subject of the material	205 (34.9)	141(24.0)	E
27	It is used through ISBN/ISSN search	205 (34.9)	141(24.0)	E
28	By using keywords of the material	226 (38.4)	120 (20.4)	E
29	It is used by using date of publication of the material	190 (32.3)	156 (26.5)	E
30	It is used through Boolean operation system	209 (35.5)	137 (23.3)	E
31	Using advance search method	247 (42.0)	99 (16.8)	E
32	It is used through browsing from the available materials	242 (41.2)	104 (17.7)	E
33	It is used through classification number	267 (45.4)	79 (13.4)	E
34	It is used through reservation of the material	264 (44.9)	82 (13.9)	E
35	It is used through receiving notice/status (due date, overdue, fine)	226 (38.4)	120 (20.4)	E
36	It is used through displayed items on dashboard	251 (42.7)	95 (16.2)	E
37	It is used through creation of search list	198 (33.7)	148 (25.2)	E
38	It is used through Mobile Apps (smart phones, tablets)	196 (33.3)	150 (25.5)	E
				E

Key: *E=Employed and NE=Not Employed*

The data presented in Table 3 revealed that 15 items on the search methods used by students in university libraries in Katsina State in retrieving information from OPAC have their frequency and percentage ranged from 136(23.1%) to 267(45.4%). This showed that the percentage value of each item was above the cut-off point, indicating that 14 items on the search methods were employed, while one (1) is not employed by students in university libraries in retrieving information from OPAC in Katsina State. This indicated that the percentage respondents were not far from one another in their responses

Research Question 4: *To what extent does OPAC is used by students for enhanced information retrieval in university libraries in Katsina state?*

Table 4: Mean Responses of the Respondents on the Extent do OPAC is used by Students for Enhanced Information Retrieval in University Libraries in Katsina State
n=346

S/n	Item statements	X	SD	Decision
39	To have knowledge on how to use library material	3.20	0.80	HE
40	To have access to library resources using personal computer (laptop) within the library premises	2.98	0.89	HE
41	To have access to library resources outside the library working hours	2.61	1.14	HE
42	To have access to library resources using the library computer during the library working hours	2.71	1.03	HE
43	To access library resources using mobile phone (smart phones) during the library hours	3.26	0.77	HE
44	To access library resources through OPAC using my mobile phone (smart phone) outside the library hours	3.23	0.85	HE
45	To know the availability of document in the library	2.74	1.03	HE
46	To know the status of a library holdings	2.71	1.08	HE
47	To view the availability of library collections	3.00	0.98	HE
48	To be able to know the number of copies of the particular document in the library	2.98	0.96	HE
49	To be used for reservation of document(s) in the library	3.21	0.87	HE
Grand Mean		2.96	0.94	HE

The data presented in Table 4 revealed that 11 items on the extent to which OPAC is used by students for enhanced information retrieval in university libraries have a mean value ranging from 2.61 to 3.26. This showed that the response mean value of each item was above the cut-off point of 2.50, indicating that all 11 items on the extent to which OPAC is used by students for enhanced information retrieval in university libraries in Katsina State. The table also showed that the standard deviations (SD) of the items are within the range of 0.77 to 1.14 and are highly significant. This indicated that the mean respondents were not far from one another in their responses.

Research Question 5: *What is the extent to which the use of OPAC contributes to enhanced information retrieval in university libraries in Katsina state?*

Table 5: Mean Responses of the Respondents on the Extent to which the use of OPAC Contributes to Enhanced Information Retrieval in University Libraries in Katsina State

<i>n=346</i>				
S/n	Item statements	X	SD	Decision
50	Speed in retrieving information	3.36	0.61	HE
51	Access to vast information resources	3.15	0.48	LE
52	Training staff and students the skills involved in search	3.31	0.51	HE
53	Enhanced accuracy	3.15	0.49	HE
54	Availability of information	3.15	0.55	HE
55	Remote access to information resources	3.10	0.55	HE
56	24/7 availability of resources	3.29	0.63	HE
57	Facilitates research navigation skills	3.18	0.76	HE
58	User friendly interface	3.24	0.61	HE
59	Personalize services (save your search, bookmark)	3.27	0.62	HE
60	Multiple search strategies	3.15	0.48	HE
Grand Mean		3.21	0.57	HE

The data presented in Table 5 revealed that 11 items on the extent to which the use of OPAC contributes to enhanced information retrieval in university libraries have a mean value ranging from 3.10 to 3.36. This showed that the response mean value of each item was above the cut-off point of 2.50, indicating that all 11 items on the extent to which the use of OPAC contributes to enhance information retrieval in university libraries in Katsina State. The table also showed that the standard deviations (SD) of the items are within the range of 0.48 to 0.76 and are very high. This indicated that the mean respondents were not far from one another in their responses.

Research Question 6: *What are the challenges associated with the use of OPAC among students for enhanced information retrieval in university libraries in Katsina State?*

Table 6: Mean Responses of the Respondents on the Challenges Associated with the Use of OPAC among Students for Enhanced Information Retrieval in University Libraries in Katsina State

<i>n=346</i>				
S/n	Item statements	X	SD	Decision
61	Lack of awareness on the availability of OPAC	3.24	0.64	A
62	Lack of confidence in using OPAC	3.19	0.74	A
63	Lack of required skills to use OPAC	3.17	0.67	A
64	Insufficient time to make use of OPAC in the library	3.11	0.71	A
65	Cost of subscription	3.06	0.71	A
66	Unstable power supply	3.25	0.77	A
67	Less number of computers at OPAC terminals in the library	3.21	0.75	A
68	Uncertainty of internet connectivity from time to time	3.21	0.63	A
69	Slow internet network for searching document on OPAC	3.24	0.60	A
70	Lack of assistance from library staff	3.21	0.65	A
71	Unclear terminology	2.64	1.01	A
72	Lack of orientation from the library staff	2.98	0.85	A
Grand Mean		3.12	0.73	A

The data presented in Table 6 revealed that 12 items from the respondents on the challenges associated with the use of OPAC among students for enhanced information retrieval in university libraries had a mean value ranging from 2.64 to 3.25. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all 12 items on the respondents list the challenges associated with the use of OPAC among students for enhanced information retrieval in university libraries in Katsina State. The table also showed that the standard deviations (SD) of the items are within the range of 0.60 to 1.01 and agree. This indicated that the mean respondents were not far from one another in their responses.

Research Question 7: *What are the strategies for overcoming the challenges of using OPAC among students for enhanced information retrieval in university libraries in Katsina state?*

Table 7: Mean Responses of the Respondents on the Strategies for Overcoming the Challenges of Using OPAC among Students for Enhanced Information Retrieval in University Libraries in Katsina State *n=346*

S/n	Item statements	X	SD	Decision
73	Proper awareness on availability of OPAC	3.23	0.66	A
74	Facilitation of user education programme by librarians	3.21	0.75	A
75	Training of OPAC search skills/strategy	3.17	0.67	A
76	Dedication of some minutes from the limited time	3.13	0.73	A
77	Provision of adequate funds to libraries	3.03	0.77	A
78	Provision of alternative power supply	3.26	0.77	A
79	Provision of personal computers/laptops for access	3.24	0.75	A
80	Provision independent internet facility for the library	3.20	0.64	A
81	Improved internet connectivity	3.22	0.65	A
82	Assignment of dedicated and skilled staff to OPAC terminal	3.18	0.71	A
83	Provision of user friendly interface with clear labels	2.57	1.07	A
84	Ensure proper orientation of new students	3.02	0.85	A
Grand Mean		3.12	0.75	A

The data presented in Table 7 revealed that 12 items on the respondents' strategies for overcoming the challenges of using OPAC among students for enhanced information retrieval in university libraries had a mean value ranging from 2.57 to 3.26. This showed that the mean value of each item was above the cut-off point of 2.50, indicating that all 12 items on the respondents list strategies for overcoming the challenges of using OPAC among students for enhanced information retrieval in university libraries in Katsina State. The table also showed that the standard deviations (SD) of the items are within the range of 0.64 to 1.07 and agreed. This indicated that the mean respondents were not far from one another in their responses.

DISCUSSION OF FINDINGS

The findings are being discussed with implications drawn from the researcher's point of view, relating them to relevant literature from the literature review. The discussion is presented based on the research questions and objective of the study.

Identify the Facilities Employed to Access OPAC in University Libraries in Katsina State

The study revealed that an aggregate of nine (9) facilities are available in university libraries in Katsina State. It is observed that almost all the facilities were available in the libraries under study. The facilities are computer systems, power supplies, internet service, and conducive environments. Others are library management software, search engines, LANs, databases of library collections, and metadata (MARC). The findings of the study is consistent with that of Ternenge, Tarbo, Terwase, and Member (2020), who found that the use of OPAC among undergraduate students largely relies on how well academic libraries

provide supporting equipment such as computers, bandwidth, databases, and awareness of ICT facilities to meet their information needs.

The Extent of Awareness of OPAC among Undergraduate Students for Enhanced Information Retrieval in Universities in Katsina State

Based on the findings from the analysis on the extent of awareness of OPAC among undergraduate students for enhanced information retrieval in academic libraries, The results show that students of the universities under study were aware that OPAC and information can be searched through the author; title; subject of interest; accession number and the ISBN or ISSN with a mean value ranging from 2.50 to 3.27. This showed that the mean value of each item was above the cut-off point of 2.50 and cluster mean score of 2.86. This finding is in line with that of Fabunmi and Asubiojo (2013), who conducted a study on awareness and use of OPAC by students of Obafemi Awolowo University, Ile-Ife, Nigeria. Their findings revealed that 68.7% of the respondents were aware of some of the OPAC services, while awareness of how to identify books by a given author had the least mean of 2.3.

The Search Methods used by Undergraduate Students in University Libraries in Katsina State in Retrieving Information from OPAC

The result of the study revealed that 15 items on the search methods used by the students in retrieving information from OPAC ranged in frequency and percentage from 136 (23.1%) to 267 (45.4%). This showed that the percentage value of each item was above the cut-off point, indicating that 14 items on the search methods were employed, while one (1) is not. This indicated that the percentage of respondents was not far from one another in their responses. The finding is in contrast with Shorunke, Eluwole, and Gbenu (2014), who reported that students visited university libraries and information centers for research are frustrated due to a lack of awareness of OPAC operations, inadequate computers and internet facilities, and basic ICT skills to access, retrieve, and exploit information materials. The authors further assert the need for libraries to employ more search methods by displaying them on their websites for better visibility of OPAC by students for easy retrieval of information.

The Extent to which OPAC is Used by Students for Enhanced Information Retrieval in Universities in Katsina State

The findings of this study with respect to research question 4 revealed that each of the items obtained a mean score greater than the accepted mean of 2.50. Findings of the study corresponded with that of Gohain & Siakia (2013), who revealed that OPAC allows users to search for a document through author, title, subject, and keywords from a terminal and also allows printing, downloading, or exporting of records via different electronic means. This suggests that the use of OPAC provides several advantages over the traditional card catalogue system, and undergraduates would perform better when they made proper use of it. Therefore, OPAC has revolutionized the traditional accessibility of library resources in general and academic libraries in particular.

The Extent to which the Use of OPAC Contribute to Enhance Information Retrieval in University libraries in Katsina State

The result of the study revealed that the majority of the respondents identified the extent to which the use of OPAC contributes to enhanced information retrieval such as access to vast information resources, training of staff and students on the searching skills, enhanced accuracy, availability of information, remote access to information resources, 24/7 availability of resources, facilitation of research navigation skills, and a user-friendly interface. The mean score from the table is 3.21. The study is in agreement with the findings of Yusuf (2012), who revealed that respondents used OPAC to retrieve materials in the library and it offers various features that can help users quickly access library resources and facilitate information retrieval. Hence, the use of OPAC can be a valuable tool for enhancing the information retrieval process in libraries.

The Challenges associated with the Use of OPAC among Undergraduate Students for Enhanced Information Retrieval University Libraries in Katsina State

The result of the study revealed that the majority of the respondents identified, lack of required skills, insufficient time, cost of subscription, unstable power supply, inadequate computers, uncertainty of internet connectivity slow internet network and lack of assistance from library staff as barriers to effective utilization of the Library OPAC. The cluster means score of the result is 3.12. This showed that the mean value of each item was above the cut-off point of 2.50. This finding is consistent with that of Mustapha, Muhammad, and Ibrahim (2023) and Gana, Ajibili, and Abel (2019) who've revealed slow network connectivity, inadequate searching skills, difficulty accessing OPAC, unclear terminology of the OPAC interface, library website interface and limited access to computers as barriers that militate against effective use of OPAC.

This implies that students encounter a sort of delay when searching for information on OPAC during their academic activities, which can in turn affect the use of the library negatively. This is because, in this age of ICT, without proper awareness of the new system, constant power supply and availability of computer terminals in the library, teaching, learning, and research, which are the major activities in an academic environment, particularly the library, will be negatively affected.

The Strategies for Overcoming the Challenges of Using OPAC among Undergraduate Students for Enhanced Information Retrieval in University Libraries in Katsina State

The findings of this study with respect to research question seven showed strategies for overcoming the challenges of using OPAC among undergraduate students for enhanced information retrieval in academic libraries. The most important is the training on OPAC search skills and strategies; the provision of adequate funds to libraries; the provision of alternative power supplies; the provision of personal computers; and the provision of independent internet facilities for the library, which had a mean value ranging from 2.57 to 3.26. This indicates that the mean value of each item was above the cut-off point of 2.50. The findings show that OPAC is a reliable information retrieval tool and is suitable for promoting research output. The finding is contrary to Kaur & Sharda (2010), who've opined that librarians should assist users in learning the use of OPAC and search engines and inform library users of the web sites available through the various networks. The researcher opined that university management and librarians should ensure high internet connectivity is provided in the library, the provision of adequate computers, a stable power supply, and the introduction of adequate use of OPAC and strategies for effective information retrieval that can help address the information needs.

Implication of the study

The findings of this study have some implications for the awareness and use of OPAC by undergraduate students in University libraries. Evidence from the study revealed that OPAC has been widely acknowledged as a reliable means of accessing and retrieving information in academic libraries. Students are always demanding comfortable and stress-free access to information resources. However, the extent of awareness and high extent of use of OPAC by undergraduate students are significant. This is interesting considering the fact that level of awareness is a determinant of usage. Hence, undergraduates use OPAC to have easy access, reliability, and specificity for certain areas of information. This implies that OPAC is frequently used by undergraduate students, and it offers various features that can help users quickly access library resources and further facilitate information retrieval.

Recently, there has been an increasing awareness of the use of OPAC among undergraduate students, and that is why they are using them to a high extent in retrieving information. Finally, the findings of this study revealed that the challenges associated with OPAC among undergraduate students for enhanced information retrieval in academic libraries under study were cost of subscription and unstable power supply, among others. The implication is that if these challenges are not tackled, access to the information needs of undergraduate students will become difficult. Several strategies have been suggested based on the findings of the study. Of utmost importance is the provision of stable power supply and independent internet connectivity for the libraries within and outside the library environment.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. Awareness and use of OPAC should be improved among students for enhanced information retrieval in University libraries in Katsina State.
2. The management of libraries should organize periodic meetings, seminars, workshops, lectures, symposiums, etc. for awareness and proper use of OPAC among the University students.
3. The user education methods should be encouraged toward achieving maximum participation among the students. Therefore, a public enlightenment and promotion programs on the benefits and usage of OPAC.
4. Adequate number of computers at the OPAC terminals should be provided
5. Efforts should be made towards inculcating the university students on the knowledge and skills required to use OPAC.

CONCLUSION

Conclusively, the study investigated the extent of awareness and adoption of OPAC among students for enhanced information retrieval in the university libraries in Katsina State. The findings of the study revealed that the students of the universities under study are aware of some of the services provided by OPAC in the libraries. The OPAC has been used to a high extent in University libraries in Katsina State. It was also discovered that employing different search methods while retrieving information from OPAC. Some other problems hinder the usage of OPAC services, despite their vital role in improving the research output. This means that they still need to be educated in other areas so that their level of utilization may rise higher than the present level. This will help the students when searching for information resources in the library, and if nothing is done to increase the level of awareness and use, hence, the universities would continue to invest a huge amount of money in the provision and maintenance of OPAC without students making effective use of it.

REFERENCES

- Abdullahi, S. M. & Saka, K. A. (2016). Relevance and use of online public access catalogue (OPAC) in university libraries in North Central Nigeria. *International Conference on Information and Communication Technology and Its Applications (ICTA)*, held at Federal University of Technology, Minna, Nigeria.
- Aina, L. O. (2004). *Library and information science text for Africa*, Ibadan: third world information services.
- Aju, D. T. & Tofi, S. T. (2020). Undergraduates' awareness, utilization and satisfaction with online public access catalogue (OPAC) in public university libraries in Nasarawa State, Nigeria. *Library and Information Perspectives and Research*, 2(1), 18-29.
- Aliyu, M. (2015). Improving library and information services: Use of appropriate
- Apagu, L., Temboge, A., & Hassan, M. (2018). Satisfaction and challenges facing undergraduates with the use of Online Public Access Catalogue in university libraries in Gombe state, Nigeria. *International Journal of Applied Technology in Library and Information Science*, 4(2), 57-68.
- Aruleba, K. D., Akomolafe, D. T. & Afeni, B. (2016). A full text retrieval system in a digital library environment. *Intelligent Information Management*, 8(1).doi: [10.4236/iim.2016.81001](https://doi.org/10.4236/iim.2016.81001)
- Asadnia, A., CheshmehSohrabi, M., Shabani, A., Asemi, A., & Demneh, M. T. (2023). Future of information retrieval systems and the role of library and information science experts in their development. *Journal of Librarianship and Information Science*, 55(1), 177-190.
- Asokan, L. & Dhanavandan, S. (2015). Awareness and usage of Online Public Access Catalogue (OPAC) by students and faculty members: A Case Study. *Journal of Emerging Trends in Computing and Information Sciences*, 6(4). Retrieved from: <http://www.cisjournal.org>

- Atanda, L. A. & Ekeh, E. M. (2021). Utilization of online public access catalogue (OPAC) among library users in some selected tertiary institutions in Lagos state. *Library Philosophy and Practice* (e-journal). 6408. Retrieved from <https://digitalcommons.unl.edu/libphilprac/6408>
- Attahir, I. S., & Elijah, J. M. (2021). Awareness, access and use of Online Public Access Catalogue (OPAC) by undergraduate students in Federal Universities in North East-Nigeria. *Information Technologist (The)*, 18(2), 79-92.
- David-West. B. T. & Angrey, C. U.(2018). Cataloguing and classification skills and information dissemination in libraries. *Journal of Educational Research and Review*, 6(7), 94-97. doi: 10.33495/jerr_v6i7.18.147.
- Ebiwolate, P. B. (2010). The use of the library catalogue by undergraduate students in Niger Delta University Library. *Library Philosophy and Practice* (e-journal). Retrieved from <http://unllib.unl.edu/LPP/posigha.htm>
- Edom, B. O. (2012). *Principles of the use of library*. Owerri: Springfield Publishers Ltd.
- Eserada, R. E., & Okolo, S. E. (2019). Use of online public access catalogue (OPAC) in selected university libraries in South-South Nigeria. *Library Philosophy and Practice* (e-journal).2586. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2586>
- Fabunmi, O. M. & Asubiojo, B. O. (2013). Awareness and use of Online Public Access Catalogue by students of ObafemiAwolowo University, Ile-Ife, Nigeria. *Library Philosophy and Practice* (e-journal) 922. Retrieved from <https://digitalcommons.unl.edu/libphilprac/922>
- Fabunmi, O. M. & Asubiojo, B. O. (2013). Awareness and use of Online Public Access Catalogue by students of ObafemiAwolowo University, Ile-Ife, Nigeria. *Library Philosophy and Practice* (e-journal) 922. Retrieved from <https://digitalcommons.unl.edu/libphilprac/922>
- Fati, O. I. & Adetimirin, A. (2015). OPAC awareness as a factor affecting OPAC use by undergraduates in two Nigerian libraries. *International Journal of Academic Library and Information Science*, 3(3).
- Gana, M., Ajibili, D.O., & Abel, D. (2019). Awareness and use of OPAC by patrons of Bingham University Library, Karu, Nasarawa state, Nigeria. *J. ICT Dev. Appl. Res.*, 1, 61-69.
- Gohain, A. & Saikia, M. (2013). Use and users satisfaction on Online Public Access Catalogue (OPAC) services among B.Tech. students of school of engineering in Tezpur University: a survey. *Library Philosophy and Practice* (e-journal). Paper 990. Retrieved from <http://digitalcommons.unl.edu/libphilprac/990>
- Ike, N. I., Amadi, C., Madu M. V., Iheagwam, S. N., Iheanacho, K. O.& Nwagu, O. J. (2023). The library services and users' satisfaction in academic libraries in Imo state, Nigeria". *Library Philosophy and Practice* (e-journal). 7727. Retrieved from <https://digitalcommons.unl.edu/libphilprac/7727>
- Itunu, A. B; Saturday, U. O; Glory, O. & Aluko A. T. K. (2014). Faculty members' awareness and use of Online Public Access Catalog (OPAC) services at Babcock university, Nigeria: A study. *Information and Knowledge Management*, 4(11), 29-37. Retrieved from www.iiste.org
- Kaur, H. & Sharda, P. (2010). Role of Technological Innovations in Improving Library Services. *International Journal of Library and Information Science*. 2(1), 011-016.
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Kumar, S. & Vohra, R. (2011). Online Public Access Catalogue usage at Panjab University Library, Chandigarh. *Journal of Library & Information Technology*, 31(4), 302-310.
- Mole, A. J. C. (2019). *Practical guide to research in library and information science*. Enugu: UNN press.
- Mulla, K. R. & Chandrashekara, M. (2009). A study on the effective use of online public access catalogue at the libraries of engineering colleges in Karnataka, India. *International Journal of Library and Information Science*. 1(3), 29-42. Retrieved from <http://www.academicjournals.org/ijlis>

- Mustapha, A., Muhammad, I. & Ibrahim, F. A. (2023). Awareness and perception of library users towards the use of online public access catalogue (OPAC) in Bayero University, Kano. *Library Philosophy and Practice (e-journal)*, 7543. Retrieved from <https://digitalcommons.unl.edu/libphilprac/7543>
- Narayanaswamy, B.V. (2019). Awareness and use of Online Public Catalogue (OPAC) services by the users of Bangalore University Library: A study. *International Journal of Library and Information studies*, 9(2), 63-70.
- Ogbole, J. O. & Atinmo, M. (2017). Factors affecting Online Public Access Catalogue provision and sustainable use by undergraduates in two selected university libraries in Ogun and Oyo states, Nigeria, *Journal of Research & Method in Education (IOSR JRME)*, 7(4), 14-25.
- Okafor, V. N. & Ukwoma, S. C. (2010). Access and retrieval of information in developing countries. In: E. C. Madu & C. N, Ezeani (Ed.), *Modern Library and Information Science for Information Professionals in Africa*. Ibadan: Text-links Publishers.
- Omekwu, C. O & Juliana, O. A. (2019). Assessment of cataloguing and classification practices of the national library of Nigeria in the digital age: a bibliographic control perspective, *International Journal of Library and Information Science (IJLIS)*, 8(1), 20-34. Retrieved from <http://iaeme.com/home/issue/ijlis?volume=8&issu=1>
- Reitz, J. M. (2004). *Dictionary for library and information science*, Chennai: Rain Tree.
- Samaila, Sani & Umar (2020). Awareness of online public access catalogue (OPAC) by undergraduate students in Federal University Dutsin-ma library, Katsina state, *UMYU Journal of Educational Research*, 10(1), 68-76.
- Sankari, R. L., Chinnasamy, K., & Balasubramaniam, P. (2013). A study on the use of online public access catalogue (OPAC) by students and faculty members of Unnamalai institute of Technology in Kovilpatti (Tamil Nadu). *International Journal of Library and Information Studies*, 3(1), 17-26.
- Shorunke, O. A., Eluwole, O. A., & Gbenu, S. A. (2014). Evaluating users' satisfaction with Landmark University's online public access catalogue. *Samaru Journal of Information Studies*, 14(1-2), 13-19.
- Song, I. S., Buba, A. A. & Song, U. M. (2018). Awareness and use of Online Public Access Catalogue (OPAC) by undergraduate students in federal university libraries in northern Nigeria, *The Information Technologist: An International Journal of Information and Communication Technology (ICT)*, 15(2), 75-85.
- Song, I. S., Buba, A. A. & Song, U. M. (2018). Awareness and use of Online Public Access Catalogue (OPAC) by undergraduate students in federal university libraries in northern Nigeria, *The Information Technologist: An International Journal of Information and Communication Technology (ICT)*, 15(2), 75-85.
- Ternenge, T. S., Tarbo, N. D., Terwase, A. C. & Member, T. C. (2020). Perceived impact of Online Public Access Catalogue (OPAC) on effective retrieval of information resources by postgraduate students in Benue State University, Makurdi. *Journal La Edusci*, 1(6), 25-36. doi: [10.37899](https://doi.org/10.37899)
- Theresa, O. O. (2006). *Principles and management of library science*. Kaduna: Palord Nigeria Limited.
- Uche, A. C. & Udo-Anyanwu, A. J. (2019). Awareness and utilization of social media by tertiary institutions librarians in Abia and Imo states, Nigeria. *Library Philosophy and Practice (e-journal)*, 2307. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2307>
- Ukpebor, C. O. (2012). Restoring the library OPAC towards usability by undergraduates students of the University of Benin. *International Journal of Science and Technology*, 1(4), 184-188.
- Yusuf, K. F. (2012). Utilization of Online Public Access Catalogue (OPAC) at the Lagos state Polytechnic library in Nigeria. *Journal of Research in Education and Society*, 3(3). Retrieved from <http://www.icidr.org>