

# ADOPTION OF MOBILE ONLINE PUBLIC ACCESS CATALOGUES (MOPACS) FOR DIGITAL LIBRARY SERVICE DELIVERY

**Egbe ADEWOLE-ODESHI P.hD**

egbeadewole15@gmail.com

University of Uyo Library, Uyo Akwa Ibom State

&

**Eucharika U. Okwueze P.hD**

okwuezeeucharika@gmail.com

Dept. of Library and Information Science, University of Calabar. Cross River State

## ABSTRACT

*The purpose of this study was to examine the “Adoption of mobile online public access catalogues for digital library service delivery. The survey research design was adopted for the study. All 253 library professionals and paraprofessionals in federal Universities South-South, Nigeria formed the population of the study. The instrument used for data collection was the questionnaire. 205 were correctly filled and returned, giving a return rate of 81%. Data was analyzed using Simple linear regression. The findings revealed that mobile online public access catalogues, significantly predicts digital library service delivery. Based on the findings of the study, it was recommended among others that Library administrators should insist that vendors must provide a mobile optimized version of online public access catalogues for library automation processes. This will enhance the provision of digital library services through smart phones and other mobile devices.*

**Keywords:** Mobile Opacs, Digital Library Services, Library Professionals, Nigeria

## **INTRODUCTION**

Libraries play a crucial role in the educational system of any institution of learning. Academic libraries provide information services to the respective tertiary institutions they cater for, which comprises of students, staff (teaching and non-teaching) and other researchers. Libraries of the 21<sup>st</sup> century are technology driven, hence a shift from the traditional methods of service delivery to a more digital way of offering global library services. Provision of information services is totally different from what it was in the past. Present day library users would like to get information from the library without visiting the physical library. (Hudron, 2019) posits that libraries are currently facing new challenges in a bid to deliver services to their users. Unlike in the past when users visited the libraries to make use of printed materials with the assistance of the librarians, the story has changed as the library of the 21<sup>st</sup> century has more expectations from their users. Digital technologies have reduced the importance and usage of physical libraries in developing countries (Emezie, 2013). (Shehu, 2015) cited in (Yebowah, 2017) opined that Nigerian Students preference for internet over library was influenced by the relative accessibility of the internet and they added that the internet can be accessed often than the library especially when the library materials are not in electronic format. Many libraries today are gradually delving into the digital realm by offering some digital library services in a few aspects of service delivery but there is an urgent need to fully move into the digital realm by offering digital library services in order not to completely loose library clientele to alternative sources of information and also achieve rangathan's fourth law of library science "save the time of the user". The mobile online public access catalogue (MOPAC) is the mobile version of the OPAC. It can be accessed anywhere and at anytime on the go. Library users do not need to visit the physical library to be able to access the library collections. In Nigeria, mobile phone usage for internet increased from 21.28% in 2016 to 48.12% in 2021. It is projected that by 2026, the population of smartphone users for internet services in Nigeria would have increased to 59.7%".( Ceci,2021). Libraries can better serve their users by embracing the growing capabilities of mobile technologies. They can promote and expand their existing digital services by offering mobile access to their websites, online databases (e-books and e-journals) and online public access catalogues. (Maideen,2017).

## **STATEMENT OF PROBLEM**

Many academic libraries in developing countries are at various stages of upgrading their libraries by automating and digitizing their collections to meet users' needs. Despite the effort, library patronage has continued to dwindle due to users' access to alternative sources of information from the internet and other available technologies. Even though many academic libraries in Nigeria are beginning to provide digital resources and services, many still have the problem of access. The Online public access catalogues of many institutions cannot be accessed outside the library premises and outside the University. This problem of access has pushed many library users to alternative sources of information leading to user apathy.

### **PURPOSE OF THE STUDY:**

The main purpose of this study is to find out if mobile online public access catalogues (MOPAC) predict digital library services delivery.

### **STATEMENT OF HYPOTHESIS**

The study sought to test the hypothesis stated below;

1. Mobile online public access catalogues do not significantly predict digital library service delivery.

### **LITERATURE REVIEW**

#### **Mobile OPAC and Digital Library Service Delivery**

The long era of traditional cataloguing ended with the introduction of Information Communication Technology (ICT). The developments in information communication technology has forced the librarians in the direction of adopting new forms of catalogue, one of such being Online Public Access Catalogue (OPAC) to aid digital library service delivery. An OPAC is a systematic record of the holdings of a collection. Its purpose is to enable a user of the collection to find out the physical location of the information in the collection. It is an access tool and resource guide to the collection of a library or libraries which provides bibliographic data in machine-readable form and also facilitates search interactively on computer terminal by a user. According to (Gohain & Saikai, 2013), some OPAC include location of document, to know what a library has on a given author, title and subject and also to know about a document without visiting the library. Therefore, in using the library OPAC, information seekers can access bibliographical records of a variety of available information resources independently. (Esedara and Okolo, 2014) opines that as a means of meeting up with the challenges of ensuring that information materials are available and accessible, libraries provide catalogues to display what is available in the library and where they can be obtained.

The use of OPAC has made it easy for users and library professionals to access library collections without waste of time and energy. OPAC is a gateway to access library services remotely. OPAC provides the users online access to the library providing an option for searching the exact resource he is looking for and retrieve it upon successful search. OPAC can also provide some extra features like checking already borrowed resources, reserving a particular resource in advance, etc. (Chandramohan, Srujan & Raju 2018). According to (Msagati, 2016) OPAC facilitates access to information resources available in a particular library, enables communication, and thus increases morale and motivation of library staff and consequently productivity of individual library staff and the library at large. OPAC provides features that allow registration of the library users, searching, accessing, reserving and renewing of information materials as well as requesting information materials from another library through inter-library loan service. OPAC used to be solely within the library premises, presently there are web-based opacs also known as webpacs which can be accessed through internet connectivity. This also has its limitations because many webpacs are not optimized to a mobile phone. Recently library software providers such millennium have come up with mobile optimized online public access catalogue which

are compatible with small screens reducing the stress of desktop access.

A Mobile Online Public Access Catalogue or MOPAC is a mobile version of a library's Online Public Access Catalogue that provides the same information as the OPAC. The MOPAC simply provides a mobile friendly interface for accessing the library catalogue using a smartphone or any other mobile device. A mobile catalogue is a view on a library's collection, with corresponding services, targeted at customers using mobile devices. When an OPAC is not optimized to a small screen, its full features will not display when a user tries to access it through a smartphone or other mobile devices. Information access is increasingly shifting away from the desktop into the mobile environments. Mobile users would like to check the availability of a specific medium and would expect short loading times and a view which is optimized for a small screen.

While most companies, libraries, museums, and cultural institutions already provide traditional Web-based Online Public Access Catalogs (WEBPAC), some have begun to deploy specialized mobile access applications as well as a simple motivating scenario for mobile access. Today people often first lookup call numbers from an external desktop computer or library terminal, then write down or email themselves lists of these call numbers to bring to the library. They then must locate each book and its corresponding stack location manually, before going to find each book. A mobile phone application can simplify this entire process by allowing users to carry both the search mechanism and results with them. Due to the rising demand by library patrons to access library resources including library catalogue from the mobile devices, libraries have developed mobile catalogues commonly known as MOPAC (Mobile Online Public Catalogue) for searching and retrieving information from the catalogue and placing holds.

Hemalata (2013) conducted a research titled; investigation and design of mobile Opac services for non-smart phone users. This research focused on providing online public access catalog services to students via mobile phone in order to enhance the traditional library walk in services and digital library service delivery. Both survey questionnaire and interview techniques were deployed as research instruments for data gathering. A sample of 100 undergraduate and postgraduate students was selected for the study from a private University with different areas of specialisation. Two librarians from the same private university were also interviewed to give opinions on the existing library services and accessing OPAC via mobile phones. The questionnaire was designed into different sections. Utilization of Library services and OPAC, Mobile phone usage and perception on accessing OPAC services via mobile phones. The findings revealed that 73% of the students prefer to access the Online Public Access catalogue via mobile phone. The reason being that OPAC provide major services of the library such as searching for learning materials, new titles in the library, reservation list and other related services. The findings from the librarians interviewed revealed that offering Online Public Access Catalogue via mobile phones will minimize the problem of conventional walk in service and will also be an added advantage for the current digital library service delivery.

Students today expect immediate, personal, easy access to information regarding items available in library on their mobile devices. They want mobile access to library systems and more. To meet these

demands, opac of mobile enhancements are specifically designed to meet the unique needs of patrons. Some of the benefits of MOPAC to patrons include 24x7 easy online access which makes it easy to use the library virtually. Vila, Galvez and Campos (2010) opined that mobile OPAC (MOPAC) ensures fast and quick retrieval of an item.

In a study by Zhou, Broussard and Lease (2010) titled “Mobile Options for Online Public Access Catalogs in the University of Texas, United States of America”. The study comprised of three complementary approaches. First, a report on a content analysis comparing mobile solutions offered by 22 institutions in the United States of America; next, a user survey of university students, staff, and faculty regarding their uses and needs for mobile catalog access. Thirdly, a prototype mobile application was built to provide mobile access to the university’s library catalog. Findings revealed that libraries and librarians have several tiered options that make it simple to provide basic functionality with relatively little effort and deliver a significantly improved user experience in comparison to relying on traditional browser-based solutions. The prototype application included a menu with “Search”, “Scan ISBN”, “About” and “Book List”. The “Search” option allows users to return to the search page at any time. The option to scan a barcode allows scanning the ISBN of any book and search by that number. The “Book List” option displays the items in the personalized book list. The “About” option provides more information about the mobile phone search application. Improving user experience is a major benefit that should be of utmost priority when setting up digital library services. Libraries should be able to close the gap between internet usage and library usage in terms of accessibility.

Similarly, Katabalwa and Mnzava (2020) carried out a study titled; Usage of Online Public Access Catalogue (OPAC) by undergraduate students at Sokoine University of Agriculture. The study aimed to examine the usage of Online Public Access Catalogue (OPAC) by undergraduate students at Sokoine University of Agriculture (SUA). The study involved 100 purposively selected Bachelor of Information and Records Management (BIRM) students. This cross-sectional study basically used self-administered questionnaires as data collection method. The data was analysed with the aid of the Statistical Package for Social Sciences (SPSS). Data was summarised and organised to answer the research questions whereby descriptive frequencies and tables were used to present and discuss the findings. Ethical issues were considered whereby the researchers obtained the research clearance from SUA which introduced the researchers to the respondents. The findings revealed that apart from the computers in the library, 38.7% of respondents indicated that they were using smartphones to access to OPAC.

Whatever option the library chose to adopt in implementing MOPAC whether supplied by a vendor or developed in-house, understanding the user searching behavior must be a priority. Librarians should ensure that the catalogue allows for multiple searching options and also should have a search box for searching by title, author, date, keyword, ISBN and others. Paterson and Low(2011). If library users have access to MOPAC, patrons will desire to access content and services from the library anywhere and at anytime.

## METHODOLOGY

This study was carried out in south- south, Nigeria. Specifically federal universities in south-south Nigeria. A total of 253 library professionals and paraprofessionals which makes up the entire population were used for this study. The survey research design was adopted for the hence 253 questionnaires were administered. A total of 205 questionnaires were properly filled and returned. Table 1 below shows the total population in each of the Universities;

TABLE 1  
Population distribution by University

S/N	Institution	Academic librarians	Library Officers	Total
1.	University of Calabar	12	75	87
2.	University of Uyo	26	30	56
3.	Federal University, Otuoke	13	12	25
4.	University of Port Harcourt	13	19	32
5.	University of Benin	12	15	27
6.	Federal University of Petroleum Resources	7	19	26
	Total	83	170	253

**Sources:** Administrative Office of each library

## RESULTS AND DISCUSSION

TABLE 2

Simple regression analysis of the predictive effect of mobile online public access catalogue on digital library Service delivery

Source of variation	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5255.600	1	5255.600	114.571	.000 <sup>b</sup>
Residual	9311.980	204	45.872		
Total	14567.580	205			

$R=.601$ ;  $R^2 = .361$ ;  $Adj R^2 = .358$ ; Std Error = 6.77287

Table 2 above shows the simple regression analysis of predictive effect of mobile online public access catalogue on digital library service delivery. The analysis shows that  $R=.601$  which implies that there is a positive relationship between MOPACS and digital library Service delivery. That is, the increase in the rate of adoption of MOPACS, the better the digital library service delivery. More so, the  $Adj R^2 = .358$  which implies that the variation in digital library Service delivery could be explained

using 35.8% contribution of mobile opacs. Also, a look at the Analysis of Variance (ANOVA) table showed that ( $F=114.571$   $p=.000$ ). Since  $p (.000)$  is less than  $p (.05)$ , this implies that mobile opacs significantly predicts digital library Service delivery. Hence, the null hypothesis is rejected, and the alternate hypothesis upheld. The result indicates that mobile online public access catalogue significantly predicts digital library Service delivery. This is due to the fact that the librarians strongly agreed that users can access MOPAC remotely thereby reducing the traffic on the onsite catalogue. They also agreed that MOPAC is not frustrating and it is the most flexible way of accessing library catalogue anywhere and at any time. The study also revealed that MOPAC can be used for searching, reserving and accessing library resources virtually.

The findings above align with that of Hemalata (2013) who investigated the use of mobile opac services for non-smart phone users. His findings revealed that 73% of the students prefer to access the Online Public Access catalogue via mobile phone. The reason being that OPAC provides major services of the library such as searching for learning materials, new titles in the library, reservation list and other related services. The findings from the librarians interviewed revealed that offering Online Public Access Catalogue via mobile phones will minimize the problem of conventional walk in service and will also be an added advantage for the current digital library service delivery. Based on the findings a Mobile OPAC Service (MOS) prototype application for university students to access Online Public Access Catalog services via non-smart phones was designed. The study also asserted that the mobile OPAC services will bring libraries one step ahead in the wireless information technology world in meeting their patrons needs and providing quality education resources.

## **CONCLUSION**

The findings above revealed that Mobile OPACS significantly predicts digital library service delivery. Mobile OPAC is revealed to be the most flexible way to search reserve and retrieve library resources. Users will not need to visit the physical library in order to have access to the library OPAC which contains the library collections. Mobile optimized online public access catalogues is a very important mobile technology in the library hence libraries in their quest to offer tailor made services should develop and provide access to mobile versions of their online public access catalogue to their clients in order to render timely and without barrier services and resources to their patrons. Mobile OPAC (MOPAC) ensures fast and quick access of an item without necessarily visiting the physical library.

## **RECOMMENDATIONS**

Based on the findings of this study, the following recommendations were made:

1. Library administrators should insist that vendors should provide a mobile optimized version of the mobile online public access catalogue. This will enhance the provision of digital library services through mobile phones.
2. Users should be encouraged to make use of mobile opacs for searching and retrieving information resources in order to reduce the traffic on the onsite library catalogue. This will further enhance the implementation of digital library services and also reduce the traffic on the

physical catalogue

3. ICT infrastructures should be put in place to properly enhance the delivery of digital library services through mobile online public access catalogues.

## REFERENCES

- Ceci, L. (2021) *Nigeria: Mobile internet user penetration 2016-2026*. Retrieved from: <https://www.statista.com/statistics/972900/internet-user-reach-nigeria/>
- Chandramohan R. Srujan K.& Raju2 K.N., (2018.) E-Library using the mobile opac *International Journal of Computers & Technology* 10(5):1682-1686 <https://DOI:10.24297/ijct.v10i5.4146>
- Emezie, N.A.& Nwaohiri, N.M. (2013) 21st Century librarians and effective information service delivery, *Journal Of Information And Knowledge Management*.4(1).Retrieved from:[file:///C:/Users/Egbe%20PC/Downloads/144609-Article%20Text-383239-1-10-20160927%20\(3\).pdf](file:///C:/Users/Egbe%20PC/Downloads/144609-Article%20Text-383239-1-10-20160927%20(3).pdf)
- Eserada, R. E. & Okolo, S E.(2014) Use of online public access catalogue (OPAC) in selected university libraries in south- south nigeria. *Library Philosophy and Practice (e-journal)*. Retrieved from: <https://digitalcommons.unl.edu/libphilprac/2586>
- Gohain, A.& Saikia, M. (2013), “Use and users satisfaction on online ublic access catalogue (OPAC) services among B.Tech. students of school of engineering in tezpur university: A survey.Retrieved from *Library Philosophy and Practice (ejournal)*<https://digitalcommons.unl.edu/libphilprac/990>
- Hemalata V.( 2013). “Investigation and design of mobile OPAC services (MOS) for non- smartphone users,”*information management and business Review, AMH International*, 5(10), 514-524. [https:// DOI: 10.22610/imbr.v5i10.1082](https://DOI:10.22610/imbr.v5i10.1082)
- Hudron K. K.(2019) Libraries and mobile technologies: An assessment of the deployment of mobile technologies in libraries. *Global Journal of Library and Information Science*, 2(16)
- Katabalwa, A.M. & Mnzava, E.E.(2020) Usage of online public access catalogue (OPAC) by undergraduate students at Sokoine University of Agriculture. *University of Dares Salaam Library Journal* 15(2) 84-99 ISSN: 0856-1818
- Maideen, S.(2017) Mobile technologies for academic libraries: An overview. Retrieved from: [file:///C:/Users/Egbe%20PC/Downloads/MobileTechnologiesforAcademicLibraries\\_AnOverview%20\(1\).pdf](file:///C:/Users/Egbe%20PC/Downloads/MobileTechnologiesforAcademicLibraries_AnOverview%20(1).pdf)
- Msagati, N. (2016) Awareness and use of OPAC by distance Learners: The case of the open



university of tanzania. *Library Philosophy and Practice e-journal* 1482. <https://digitalcommons.unl.edu/libphilprac/1487>

Paterson L. & Low, B. (2011) Students attitude towards mobile services for smartphone users, *Library Hi-Tech* 412-423

Vila, M.C., Gálvez, A.P. and Campos, J.C. (2010) 'Mobile services in the rector gabriel ferraté library, technical university of catalonia', *Reference Services Review*, 38(2), 321-334.

Yebowaah, F.A. (2017). Comparative study of library and internet use as a source of information by graduate students of the university for development studies, ghana. *Library Philosophy and Practice (e-journal)*.: <https://digitalcommons.unl.edu/libphilprac/1606>

Zhou, Y, Broussard R, & Lease, M. (2011) Mobile option for online public access catalogue i- Conference proceedings.