



Utilisation of Online Public Access Catalogue (OPAC) among Students of Federal University of Agriculture, Abeokuta, Nigeria

Dr. Owolabi Kehinde Abayomi¹, Mrs. Adeyeye Yemisi Susan², Mr. Musa. S.S³, Mrs. Pelemo Grace Dolapo⁴, Mrs. Adesina A Oluronke⁵

¹Principal Librarian, Nimbe Adedipe Library Federal University Of Agriculture Abeokuta Ogun State Nigeria

²Librarian, Hezekiah Oluwasanmi Library Obafemi Awolowo University Ile- Ife Osun State Nigeria

³Lecturer, Department of Library and Information Science AkanuIbiam Federal Polytechnic Unwana-AfikpoEbonyi State Nigeria

⁴Principal Librarian, Osun State University Library Osogbo Nigeria

⁵PhD student, Department of Library and Information Studies University of Zululand South Africa

*Corresponding author: yomiowolabi2000@yahoo.com (Dr. Owolabi Kehinde Abayomi)

Introduction

Libraries house information in various forms such as prints and non-print materials. Considering the availability of various resources in the library, there is need for information retrieval systems that will enable users to have access to required information as at when needed. Modern libraries are increasingly being redefined to provide unrestricted access to information in various sources and formats. Academic libraries differ from one another in many respects, but they all have the same basic function, which is to aid the parent institution to carry out its objectives in the areas of teaching, learning, and community development. Libraries contribute to the realisation of these objectives and support

institutional programmes through the acquisition of books, materials, and e-resources for effective teaching and learning.

The importance of library users in library operations cannot be overemphasised. This makes it essential that library management see to the satisfaction of library users by ensuring that they have access to timely information in a time-saving manner. One effective way of achieving this is through the use of Online Public Access Catalogue (OPAC). Online public access catalogue is a form of information retrieval system characterised by mini bibliography records from books, journals, audio visual and other library materials that are available in a particular library. OPAC is

Received 02.03.2022; Accepted 22.03.2022

DOI: [10.48165/gmj.2022.16.1.2](https://doi.org/10.48165/gmj.2022.16.1.2)

Copyright @ Gyan Management Journal (acspublisher.com/journals/index.php/gmj)

an ICT tool that replaced card catalogue, which was the traditional method of searching for information in libraries. Thanuskodi (2012) argued that OPAC records are derived from MARC, the acronym for machine readable catalogue, and it is a brief bibliographic description of library materials with a small number of controlled subject descriptions. OPAC can be searched and accessed using the following access points: author, title, subject, keywords, editors, ISBN, and ISSN, among others (Fabunmi and Asubiojo, 2013). Dinet, Favart and Passerault (2004) noted that when searching for information on OPAC, Boolean operators can be used with keywords for quick access to, and retrieval of more specific information. This submission supports Ranganathan's law of library science, which advocated that libraries should operate in a manner that is time-saving for users (Ranganathan, 1931). Kumar and Singh (2017) traced the history of existence of OPAC to the 1970s, as a result of the combined efforts of the librarians of Ohio State University and Dallas Public Library to replace card catalogues. Aina (2004) stated various advantages of using OPAC, which include the ability to save time and promote accuracy in locating materials. Emiri (2015) added that OPAC usage by library users permits simultaneous multiple queries of databases, which was not possible with the traditional card catalogue.

Despite the various benefits that come with OPAC's usage in libraries, particularly academic library, some studies have noted that there is poor utilisation of OPAC by library users (Fabunmi and Asubiojo, 2013, Sankari et al., 2013). Premised on this observation, the current study investigated the use of OPAC among students of the Federal University of Agriculture, Abeokuta, Nigeria.

The Federal University of Agriculture, Abeokuta, Nigeria was established on January 1, 1988 by the Federal Government of Nigeria. The university has nine colleges, which are: College of Animal Science and Livestock Production, College of Environmental Resources Management, College of Physical Sciences, College of Bioscience, College of Veterinary Medicine, College of Food Science and Human Ecology, College of Agricultural Management and Rural Development, College of Managements, and College of Engineering. The University library has 84, 185 volumes of books and monographs, as well as 5000 volumes of bound

journals. The library also subscribes to 185 foreign and local journals in both electronic and print formats (University Calendar, 2019)

Currently, the library's OPAC is fully functional, making it possible for students to access bibliographical details of library resources online. The library currently has access to various electronic databases online, or in CD formats. These include TEEAL (The Essential Electronic Agricultural Library, AGORA (Access to Global online Research in Agriculture), HINARI (Health International Network Access to Research Initiatives), CAB Abstracts on CD-ROM, The Nigerian Virtual Library, Elsevier database, Ebscohost, and a host of others.

Problem statement

OPAC is an indispensable contemporary information retrieval tool in libraries all over the world. It has been a gateway for library users to have access to various library materials, in order to meet their bibliographic information needs. However, extant literature revealed that there is poor usage of the resources, particularly in university libraries in developing countries (Eserada and Okolo, 2009; Kumar et al., 2018)

The Federal University of Agriculture, Abeokuta, Nigeria library provides web-based OPAC for information access by the students and other library users. The essence of the tool is to enable users to have quick and effective information search. However, many students depend on the library staff to assist them in locating library resources, in spite of the availability of OPAC. Observations also revealed that many students just browse through the shelves when searching for materials in the library, leading to elongated search time in obtaining required information.

In addition, the need for the study becomes very important because the university had spent a lot of funds to acquire the relevant OPAC system for easy access to information by the students. Despite the fact that OPAC has been adopted in many university libraries in Nigeria and that theories on technology acceptance have emerged, yet it seems that no research has attempted to examine the factors that influence the acceptance and use of OPAC in Nigerian university

libraries. Against this backdrop, this study employed the use of UTAUT theory to identify the factors that influence the behavioural intention to use OPAC.

Objectives of the study

1. To determine the extent of OPAC usage by the students.
2. To find out the place where the students access OPAC.
3. To identify the purpose of using OPAC by the students.
4. To determine the level of satisfaction of OPAC usage by the students.
5. To find out the factors that influence the behavioural intention to use OPAC.
6. To find out the challenges students face when using OPAC.

Literature review

OPAC is an online database commonly used to access information in libraries. The tool is primarily used to locate books and other relevant materials that are physically located in the library. Tella (2019) pointed to the fact that OPAC can be used to make request for specific and refined query/knowledge through its advanced search feature. It can also be accessed from any location in the world.

Various research works have been done on the use of OPAC among library users. Chisman, Diller and Wallbridge (1999) conducted a study on OPAC usage in Washington State University, USA. A new version of OPAC was introduced, hence, the library management decided to test the usability of the new version. The result revealed that many library users were unable to use OPAC. Kumar and Mahajan (2015) conducted a study among students in Indian universities concerning OPAC usage, which revealed that majority of the students used OPAC to locate library materials on the shelves, and that author search is the most used search method. Sankari et al. (2013) investigated the use of OPAC among students of the Unnamalai Institute of Technology in Kovilpatti, India. Their study revealed that 57.69% of the users consulted OPAC to

identify and locate the library materials for their use. The result also indicated that 95.38% of the users search OPAC through the use of author search, 91.54% search through the use of title, while 33.08% search through the use of subject.

Similarly, Yusuf and Iwu (2010) conducted a study on OPAC usage in a private university in Nigeria. The finding revealed that 61.9% of the students were using OPAC in order to access library resources. They attributed this to the introduction of compulsory library orientation programmes for new students. In addition, studies have been done on the various places in which students access OPAC. Mulla and Chandrashakara (2009) revealed that 52% of library users of the College of Engineering, Karnataka, India, access OPAC in the library while 10.44% access the tool outside the walls of the university library. The study attributed the poor use of OPAC outside the library to lack of adequate awareness on the use of OPAC. In their own study, Omoike and Oke (2014) examined OPAC usage among students in a university in Nigeria, and discovered that many students used OPAC outside the university environment. This was attributed to the fact that using OPAC saves their time. Fabunmi and Asubiojo (2013), in a study carried out at Obafemi Awolowo University, Ile-Ife, Nigeria, explored the awareness and use of OPAC among the students. The findings of the study showed that 20% of the undergraduate students admitted that they can use OPAC without the assistance of library staff, while 10% of the students claimed that they cannot use OPAC.

In addition, Islam (2010) examined the use of OPAC among undergraduate students at Dhaka University Library, Bangladesh. The findings revealed that majority of the students were not aware of the availability of OPAC in the university library. The research indicated that the university students preferred to browse through the shelves in order to locate books. Similarly, Ebiwolate (2010) investigated OPAC usage among the undergraduate students of Niger Delta University, Nigeria and revealed that majority of the students were not using the tool. Singh, Naidu and Jadon (2008) examined users' satisfaction with OPAC at the Devi Ahilya University library, India. The research revealed that students were satisfied with the use of OPAC in the university library. The study suggested that there is need for library staff to improve on their assistance to the students on OPAC usage. Vohra

(2011) investigated the use of OPAC among students of Guru Nanak University Amritsar, Punjab. The author discovered that most of the undergraduate students were not satisfied with OPAC services. Mulla and Chandrashekara (2009) studied the level of users' satisfaction with OPAC in the College of Engineering library in the city of Karnataka, India and reported that the tool is very useful, with the students requesting for more training on the use of the library resources.

Studies have highlighted the various challenges that library users encounter when using OPAC. For instance, Thanuskodi (2012) investigated the use OPAC in a university in India and noted that about 95% of the students lacked adequate knowledge on how to use OPAC and that slow internet connectivity was another challenge in the use of OPAC in the university. In the same vein, Sankari et al. (2013) revealed that students of Unnanalai Institute of Technology, Kovilatti also indicated that lack of adequate knowledge on how to operate OPAC was the main challenge they face in the use of the tool.

Theoretical framework

Irrespective of the amount of funds invested to acquire information and communication technologies, there is still need to find out the extent to which such investments yield the desired goals and benefits. Therefore, it is necessary to find out if the technology will be accepted or rejected by the prospective users. Lack of studies that address acceptance and use of technology has been identified as a serious impediment to the successful adoption of new technology (Evans, 2014). Extant literature revealed that users are often ready to use technology when they perceive that it will improve their job performance. However, the factors that determine the acceptance and rejection of OPAC need to be investigated, in order to help in designing the tool to reduce the risk of rejection.

Dillon and Morris (1996) described acceptance as the willingness of the users to employ the use of technology (OPAC) in performing the task that the technology is meant to perform. This implies that user acceptance can be described as a pivotal factor that can assist in the determination of the success or failure of any form of technology adoption.

Various theories have emerged in scholarly research concerning user acceptance and the behavioural intention to use technology. These include the theory of reasoned action, the theory of planned behaviour, technology acceptance model, PC utilisation (MPCU), motivational model, diffusion of innovation theory, and social cognitive theory.

After a critical examination of the above named theories, Venkatesh et al. (2003) formulated a new theory called the Unified Theory of Acceptance and Use of Technology (UTAUT). This study employed the use of UTAUT to examine the factors that influence the behavioural intention of students to use OPAC. The theory was developed with four core constructs, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. Gender, age, voluntariness of use, and experience with technology are the four moderators. Performance expectancy is the degree to which a person believes that if he or she uses a system, it will assist him/herto perform given tasks better (Venkatesh et al., 2003). Effort expectancy can be described as the degree of ease of using the technology which is also related to the perceived ease of use (Venkatesh et al., 2003). Social influence refers to the degrees to which a person experiences the influence from people in his/her environment to use the technology (Owolabi, 2016). Facilitating condition can be defined as "the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003).

Research methodology

The study used survey research method. Questionnaire was used to collect the data for the study. The population of the study comprises two thousand and three students that registered in the university library. The Yamane (1967) sample size formula was used to determine the appropriate sample size for the study. The formula gave 343 as the accessible population; and out of the 343 questionnaires that were distributed, only 310 questionnaires were returned, giving a 97% response rate.

However, only the students in 300 levels were allowed to participate in the research. The reason for this was based on the fact that, at this level, the students

are expected to have taken GNS 204, which is the use of library, a course aimed at exposing them to the use of OPAC. The course is a compulsory university course that all the students must pass before graduating from the university. This aside, the undergraduate students that were used for the study were those that make use of the library frequently. This was done through the bio-data questionnaire that was first administered in order to identify those that use the library regularly. The researchers, with the help of two research assistants, administered the questionnaire to the respondents in their various colleges.

Data analysis

Table 1. Demographic characteristics of the respondents

Gender		
Gender	Number	%
Male	195	63
Female	115	37
Total	310	100

Table 2. Age

Age	Number	%
18 -22	104	34
23-26	120	39
27-30	68	22
31-35	10	03
35 –above	08	02
Total	310	100

Table 3. Extent of OPAC usage among undergraduate students

Frequency of use	Frequency	%
Daily	99	32
Twice in a week	82	26
Weekly	70	22
Montly	45	15
Yearly	11	04
Not at all	03	01
Total	310	100

Table 4. Place of Access

Place of Access	Frequency	%
Home	21	07
Cyber café	34	11
University Library	188	61
Hostel	67	21
Total	310	100

Table 5. Purpose of using OPAC by undergradaute students

Purpose of Using the OPAC	Responses	%
In order to locate books and other library materials.	123	39
To check if needed book is available in the university library.	74	24
To check the reserved and borrowed books in the library.	24	08
To check the number of books available on a particularly subject.	89	29

Table 6. Level of satisfaction

Safistactions Levels	Always	%	Partially	%	Not at all	%
Are you satisfied with the use of OPAC in your university library?	153	49	120	39	37	12

Factors that most influence the behavioural intention of undergraduate students to use OPAC

Table 7. Regression of students' behavioural intention to use OPAC

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648 ^a	.420	.413	1.701

a. Predictors: (Constant), FC, PE, EE, SI

Table 7 shows the contribution of the independent variables (PE, EE, SI and FC) to the prediction of the dependent variable (Behavioural Intention). It shows a coefficient of multiple correlation (R=0.648 and a multiple R² of 0.420). This means that 42.0% of the variance was accounted for by the predictor variable.

Table 8: ANOVA^a of students behavioural intention to use OPAC

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	686.654	4	171.663	59.361	.000 ^b
	Residual	948.536	328	2.892		
	Total	1635.189	332			

a. Dependent Variable: BI
b. Predictors: (Constant), FC, PE, EE, SI

The significance of the composite contribution was tested at $p < 0.05$. Table 2 shows that the analysis of variance for regression yielded F-ratio of 59.361 (significant at 0.05). This implies that significance exists between the independent variables and dependent variable, that the other variable not included in this model may have accounted for the remaining variance.

Table 9. Coefficients^a indicating how behavioural intention varies with independent variables

Model B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	Std. Error	Beta			
(Constant)	3.404	1.060		3.211	.001
1 PE	.051	.039	.056	1.318	.188
EE	-.112	.085	-.061	-1.322	.187
SI	.544	.044	.630	12.451	.000
FC	.279	.056	.284	4.946	.000

a. Dependent Variable: BI

Table 9 shows the relative contributions of the four independent variables to the dependent variable expressed as beta weights, viz: PE ($B=0.051$, $p > 0.05$), EE ($\beta = -0.112$, $p > 0.05$), SI ($\beta = 0.544$, $p < 0.05$) and FC ($\beta = 0.279$, $p < 0.05$). Hence, while PE and EE were not significant, SI and FC were significant. This implies that social influence and facilitating condition are the two UTAUT constructs that significantly influence the behavioural intention of the undergraduate students to use OPAC in the institution's library.

Table 10. Challenges faced in the use of OPAC

Problem facing the use of OPAC	Frequency	Percentage
Poor power supply	94	30
Poor Internet connectivity	129	42
Lack of adequate knowledge on the use of OPAC	40	13
Challenges in locating necessary materials	33	11
Lack of necessary support from the library staff	10	03
Spelling and typographical errors	04	01
Total	310	100

Discussion of the findings

The finding of the study revealed that majority of the students is using OPAC. This corroborated the finding of Tella (2019) that undergraduate students in Nigerian universities are using OPAC. In addition, another finding revealed that students used OPAC twice a week. This is in line with the finding of Gohain and Saika (2013) that majority of the students in India use OPAC weekly. Similarly, this finding supported the study of Veena, Mallaiah and Pushpalatha (2015) that revealed that undergraduate students of SVS College library, Bantwala used OPAC twice in a week.

Another finding of the research indicated that university library is the major place in which the students access OPAC. This finding supported the finding of Veena, Mallaiah and Pushpalatha (2015) that majority of undergraduate students of SVS College, Bantwala accessed OPAC resources in the university library. Likewise, Tella (2019) revealed that most Nigerian university students access OPAC in their university libraries. The reason for this may be due to the fact that the users want a comfortable place to access the tool. Similarly, the finding of the study corroborated Fabunmi and Asubiojo (2013) in a similar study at Obafemi Awolowo University, Nigeria, in which it was revealed that students of the university used OPAC from the university library. Likewise, the findings

of the study corroborated the findings of Mulla and Chandrasher (2009) at Devi Ahija University, India, those undergraduate students in the university used OPAC in the university library. In another study by Yusuf and Iwu (2010) at Covenant University, Nigeria, it was reported that students in the university used OPAC from the university library.

Furthermore, using OPAC to locate library materials is the major reason for using the tool. This is in line with the finding of Tella (2019), in their respective studies, that undergraduate students used OPAC mostly to locate books and other library materials in India and Nigeria respectively. In addition, Krishnamoorthy and Muthusamy (2018) revealed that library users at Jeppiar Maamallan Engineering College, India, used OPAC to locate library materials. This may be due to the fact that using OPAC saves their time. Also, Hiremath and Kumar (2018) revealed that students of Institute of Management, Babgalane, confirmed that they used OPAC primarily to locate various library materials and books.

In the current study, the students also admitted that they are satisfied with OPAC usage in the library. This corroborated the finding of Haris (2008) and Tella (2009) that revealed in their studies that students in Indian and Nigerian universities were satisfied with OPAC services,

On the factors that influence the behavioural intention of the students to use OPAC, the finding revealed that social influence and facilitating condition are the two constructs from the UTAUT that influence the behavioural intention to use OPAC. The finding of the study contradicted the finding of Rahman, Jamaludin and Mahmud (2011) in Malaysia on factors influencing behavioural intention to use digital library. The study revealed that performance expectancy and effort expectancy are the two constructs that influence the use of digital library. Likewise, the finding contradicted the finding of Nwone, and Mutula (2019), in a study in South Africa that revealed that PE and EE are the factors influencing the use of e-resources in the library. On the other hand, the finding of the study is in line with the finding of Alajmi (2018), Ayele and Sreenivasarao (2013) and Zhou (2012), that facilitating condition influences the use of resources in libraries. In another development, the finding of the study also supported the finding of the following researchers that

social influence is the factor that influence the use of e-resources in the library (Pinigas, Cleopas and Phiri, 2017; Harsonoand Suryana, 2014; Venkatesh, Thong and Xu, 2012; Zhou, 2012).

Furthermore, the research also revealed that poor internet connectivity is the major hindrance facing the use of OPAC in the university. This finding contradicted the finding of Tella (2019) in his study in Nigeria that revealed that power failure is the major hindrance facing the use of OPAC in selected universities in Nigeria. In another study, Song, Buba and Song (2018) revealed that inadequate access to OPAC is the main challenge students faced the use of OPAC in Northern Nigerian universities.

Conclusion and recommendations

The study revealed that the students are aware of the importance of OPAC in searching for information in the university library. In addition, the students established that they are satisfied with the use of OPAC in the library because they use the tool to search and locate necessary library materials. Poor internet connectivity was identified as the major challenge in the use of OPAC in the university library. Based on the findings of the study, the following recommendations are made. The use of OPAC should be included in the curriculum of GNS 204 (Use of the library), which is being handled by the practising librarians in the university library. The inclusion of the teaching of OPAC will allow the students to effectively use OPAC. In addition, OPAC manuals should be made available to users during the library orientations or registration programme. This will encourage them to use the tool effectively.

It is further recommended that library management should improve on internet access to the library. This could be done through increased budget allocation to the library. This will enable the library to subscribe to more effective internet service.

The study is limited in that it focused on only one university of agriculture, and it is further restricted students. Therefore, the result may not be generalised to other universities of agriculture in the country or all the students in the university, considering that only level three students were used for the study. Hence, the study

suggests further research on OPAC usage in other universities of agriculture, as well as a comparative study on OPAC usage among students in the specialised and conventional universities in the country.

Despite the limitations, the results of the study provide fresh data on how to improve OPAC usage, particularly in an academic environment. The findings of the study are very important to librarians, library officers, library management, and library users. Practically, the results of the research would provide opportunity for university libraries in the country to identify ways of encouraging the use of OPAC and making provisions for the services that will enhance the use of libraries by the undergraduate students in the country.

References

- Aina, L. O. (2004, June). Coping with the challenges of library and information services delivery: The need for institutionalized professional development. In *42nd NLA National Conference/Annual General Meeting at Akure* (pp. 20-25).
- Alajmi, M. A. (2018). The acceptance and use of electronic information resources among faculty of selected Gulf Cooperation Council States universities. *Information Development*, 1 (20), 12- 23.
- Ayele, A. A., and Sreenivasarao, V. (2013). A case study of acceptance and use of electronic library services in universities based on SO-UTAUT model. *International Journal of Innovative Research in Computer and Communication Engineering*, 1(4), 903-911.
- Chisman, J., Diller, K., and Walbridge, S. (1999) Usability testing: A case study. *College and Research Libraries*, 60(6), 552-569. 1
- Dillon, A., and Morris, M. G. (1996). User acceptance of new information technology: theories and models. Medford, NJ: Information Today.
- Dinet, J., Favart, M., and Passerault, J. M. (2004). Searching for information in an online public access catalogue (OPAC): The impacts of information search expertise on the use of Boolean operators. *Journal of Computer Assisted Learning*, 20(5), 338-346. doi:10.1111/j.1365-2729.2004.00093.x.
- Ebiwolate, P.B. (2010). The use of the library catalogue by undergraduate students in NIGER Delta University library. *Library Philosophy and Practice*, 1.
- Emiri, O. T. (2015). Influence of demographic factors and use of online public access catalogue (OPAC) by undergraduates in selected university libraries in Southern Nigeria. *International Journal of Scientific and Technology Research*, 4(7), 164-169.
- Eserada E. R. and Okolo E. S. (2019) Use of Online Public Access Catalogue (Opac) in selected university libraries in South- South Nigeria <https://digitalcommons.unl.edu/libphilprac/2586/>.
- Evans, N. D. (2014). Predicting user acceptance of electronic learning at the University of Zululand. PhD thesis Department of Information Studies.
- Fabunmi, O. M., and Asubiojo, B. O. (2013). Awareness and use of Online Public Access Catalogue by Students of Obafemi Awolowo University, Ile-Ife, Nigeria. *Library Philosophy and Practice*, 922. Retrieved from <http://digitalcommons.unl.edu/libphilprac/922>.
- Gohain, A., and 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*, 990. Retrieved from <http://digitalcommons.unl.edu/libphilprac/990>.
- Harris, C. (2008). Fishing for information. *School Library Journal*, 54(1), 24-24.
- Harsono, I. L. D. and Suryana, L. A. (2014). Factors affecting the use behaviour of social media using UTAUT 2 model. Proceedings of the First Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences (AP14 Singapore Conference), Singapore, (2014, August 1-3). Paper ID: S471.
- Hiremath, S. and Kumar, P. D. (2018). Evaluation of Indian Institute of Management Bangalore Library Web OPAC: A Case Study. *World Digital Libraries-An international journal*, 11(1), 41-58.
- Islam, M. M. (2010). The use of the library catalogue by undergraduates. *Library Philosophy and Practice*, 1. https://www.researchgate.net/profile/Md_Islam11/publication/215519723_The_Use_of_the_Library_Catalogue_by_Undergraduates/links/05013f375e5c0541b368daa6/The-Use-of-the-Library-Catalogue-by-Undergraduates.pdf
- Krishnamoorthy, P. and Muthusamy, C. (2018). Usage of Online Public Access Catalogue by Faculty Members of Jeppiaar Maamallan Engineering College: A Case Study. *Asian Journal of Information Science & Technology (AJIST)*, 8(3).

- Kumar, P. and Mahajan, P. (2015). Use and usage of OPAC in public libraries in Chandigarh City (India): a study. *SRELS Journal of information Management*, 52(3), 32-39.
- Kumar, R. Singh, J. Singh, B. and Rana, M. (2018) Usability of OPAC in university libraries *Library Philosophy and Practice* (e-journal). <http://digitalcommons.unl.edu/libphilprac/19918>.
- Kumar, R. and Singh, J. (2017). Comparative study on OPAC, use in libraries of Maharishi Dayanand and Kurukshetra University. *Academic Discourse*, 6(1), 44-52.
- Mulla, K.R. and M. 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), 029-042.
- Nwone, S.A. and Mutula, S., 2019, Determinants of use of electronic information resources by the professoriate in Nigerian universities: Extending the unified theory of acceptance and utilisation of technology model', *South African Journal of Information Management* 21(1)
- Omoike, A., and Oke, T. (2014). Online public access catalogue [OPAC] in Nigerian libraries: A case study of the Kenneth Dike library and university of Lagos library. *Ozean Journal of Social Sciences*, 6(3), 55-65.
- Owolabi, K.A (2016). Access and use of clinical informatics among medical doctors in Nigeria and South Africa. A PhD thesis submitted to the Department of Information Studies University of Zululand, South Africa.
- Pinigas, M., Cleopas, R., and Phiri, M. A. (2017): Acceptance of e-resources by students in Zimbabwe State Universities' libraries: A consumer behaviour perspective. *International Information and Library Review*, 0(0), 1-13.
- Rahman, A. L. A., Jamaludin, A., and Mahmud, Z. (2011). Intention to use digital library based on modified UTAUT model: Perspectives of Malaysian postgraduate students. *World academy of science, Engineering and Technology*, 75, 116-122.
- Ranganathan, S. R. (1931). The five laws of library science. *Medras: Madras Library Association*.
- Sankari, R. L., Chinnasamy, K., Balasubramanian, P. and Muthuraj, R. (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).
- Singh, R. P., Naidu, G. H. S. and Jadon, G. S. (2008). Use of online public access catalogue in Devi Ahilya University Library, Indore. *SRELS Journal of Information Management*, 45(1), 55-62.
- Song, I.S. Buba, A.A. and Song, U.M. (2018). Awareness and use of Online Public Access Catalogue (OPAC) by undergraduate students in federal university libraries in northern Nigeria. *Information Technology*, 15 (2) 12 -22.
- Tella, A.(2019). Use of Online Public Access Catalogue (OPAC) by undergraduates in selected Nigerian universities. *International Journal of Web Portals*, 11(1), 30-46.
- Thanuskode, S. (2012). Use of Online Public Access Catalogue at Annamalai University library. *International Journal of Information Sciences*, 2(6), 70-74.
- Veena, G., Mallaiah, T.Y. and Pushpalatha, K. (2015). Use and awareness of online public access catalogue (OPAC) facility by users of SVS College Library, Bantwala, Mangalore- A study. *International Journal of Library and Information Studies*, 5(4): 65-71.
- Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Venkatesh, V., Thong, J. Y. and Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *Forthcoming in MIS Quarterly*, 36(1), 157-178.
- Vohra, R. (2011). Use of online public access catalogue in Guru Nanak Dev University library, Amritsar: a study. *SRELS Journal of Information Management*, 48(5), 519-528.
- Wilson, R., and Given, L. M. (2014). Student search behaviour in an online public access catalogue: an examination of 'searching mental models' and 'searcher self-concept'. *Information Research*, 19(3).
- Yamane, T. (1967). *Statistics, An Introductory Analysis*. 2nd ed. New York: Harper and Row.
- Yusuf, F.O., and Iwu, J. (2010). Use of academic library- A case study of Covenant University, Nigeria. *Chinese Librarianship: An International Electronic Journal*, 30: 1-12.
- Zhou, T. (2012). Examining location-based services usage from the perspectives of unified theory of acceptance and use of technology and privacy risk. *Journal of Electronic Commerce Research*, 13(2), 135-144.