



Use of Koha Open Source Software and Library Automation in University Libraries in South-South, Nigeria

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Abstract

This study on Use of Koha Open Source Software and Library Automation in University Libraries in South-South Nigeria is aimed at determining the influence of Koha Open Source on library automation. Five hypotheses were formulated to guide the study. The research design for the study was the survey method. The population of the study is 98 university librarians, their deputies and all heads of divisions/sections/units drawn from six federal and six state university libraries in South-South zone of Nigeria. There was no sampling as the population is being considered small, accessible and manageable. The questionnaire tagged, Use of Koha Open Source Software and Library Automation (UKOSSLA) is the instrument for data collection. The reliability co-efficient of the instrument is 83, using Cronbach Alpha reliability that is considered high enough to justify the use of the instrument. The instrument was validated by an expert in measurement and evaluation. The administration of the instrument was done personally by the researcher. Descriptive statistics was used to analyze the research questions, while chi-square was used to test the hypotheses. The findings of the study include that many universities libraries in Nigeria and across the globe have continued to apply open source software in modern library system; the flexibility, usability, acceptability and flexibility nature of the software, facilitate maximizing of speedy search for information. The problem that militates against the use of Koha open source software and Library Automaton in university libraries include: inadequate managerial support, power supply, funding, human skills, adaptability and feasibility study. The study recommends that there should be adequate sensitization study, training, (seminar, workshops) to create awareness on library software, consideration of user requirements, availability of user group for the software and presence of the infrastructure (hardware, software, network) should be considered.

Keywords: Software, Koha Open Source Software, Library Automation, University Libraries.

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INTRODUCTION

Library automation begins with the planning of adoption of software in the library. The software should have the adequate and maximum facilities to automate the library into computerized system. Library automation is the bedrock of information communication technology. To Senthilkumaran and Sreeja (2017), library automation refers to the use of computer to automate the typical procedures such as cataloguing acquisition, charging and discharging among others. Automation reduces time spent in information acquisition, assemblage, organization and dissemination. Automating a library is pivotal and worthwhile decisions which prompt quick response to requests as well as easy access to information. Hence, reliable library software tends to fill such gap. Software is a computer set of program for using computers and other such hardware to their optimum capabilities (Senthilkumaran and Sreeja, 2017). However, library software is the software used in library routine functions and resources retrieval system.

Library software come in two different models: the proprietary software (those that require the payment of subscription fee) and the open source software (OSS). Open source software is an obligation for libraries to place her users and library system to achieve her technological goal. This has great impact on the services in operating different library housekeeping operations and functions, since through open source software the transition from “traditional” to “technology based” will be efficient and effective, and customized search for the benefit of the entire library system, and revolutionized library resources.

Ukachi, Nwachukwu and Onuoha (2014) assert that open source software are computer software that are produced by programmers and made available to the general public with their source codes and relaxed copyright restrictions and also allows modification by users in line with their needs, requirements and purpose of usage. Also, open source software allows users to freely change the source code to suit any specific information for her usage. Notably, they can be used in libraries to provide new value-added services to the end users (for library staff, library users) and its extension of developing and distributing diverse programs.

Koha software according to Projectlink (2010) was initially developed in 1999 in New Zealand by Katipo Communication Limited and first developed in January 2000 for Horowhenua Library Trust. Currently maintained by a team of software providers and library technology staff from around the globe. The name Koha comes from a Maori term for a “gift” or “donation”. Koha Open Source Software according to Wikipedia (2012) is a web-based integrated library system (ICS), with a SQL database (MySQL preferred) backend cataloguing data stored in MARC and accessible via 239.50 with a superb feedback mechanism. It is an economic alternative even though it has all the feature of commercial software. The essence is because the cost involved in development, license, upgrading, maintenance, etc. is lower than the commercial software and does not need the initial cost like the commercial software. Hence, it has the state-of-the-art web interface, enriched content, faceted navigation, keyword searching user contribution and rich sit summary (RSS) feeds (Yang, Hofmann and Weeks, 2009).

In Nigeria, the first library to install and fully utilized Koha OSS/ILS is Bowen University library, Iwo in 2007 which later different university libraries started full implementation due to its viability and user-friendly nature. Libraries that strive to meet up with end user’s information, has to attach importance to its automation procedures using compatible software that aid their services, even as the role of information, dissemination, service delivery and information retrieval are changing as a result of current development in automated electronic communication, so is the library system.

Therefore, it is very important for libraries to adopt the open source software in order to greatly enhance and assist users in locating specific piece of information. It is equally necessary that libraries provide a leading tool to the library collections as well as guide(s) to access information in all its many forms. This will help in bringing related work(s) together and make a great resource exploitation.

In the light of the foregoing, the study intends to investigate the use of Koha open source software and library automation in south-south, Nigeria.

Statement of the Problem

A continuous salient role of computerization, mechanization and technological transformation in libraries is an indisputable reality. In today's world of a highly connected public, the capabilities of the open source software system determine the library's ability to deliver relevant services, improvement in the existing services and introduction of new services and enhances the prestige and status of the library. Koha open source software also is cost effective, user-driver, has long term support, motivate and encourage staff to creativeness.

In spite of these benefits, fear of employment retention technology not been economical, need training, budget challenges, institutional structure and library system management, among others are the conditions they prevent the goal from being realized, this study will guide the libraries, especially university libraries in south-south Nigeria to make the right choice in adopting Koha open source library software.

Objectives of the Study

The main purpose of the study is to determine the influence of selected Koha open source software variables on library automation in federal and state universities in south-south, Nigeria. Specially, it seeks:

- To determine the influence of the use of Koha open source software on planning library automation in federal and state universities.
- To determine the influence of the use of Koha open source software on evaluation of library automation software in federal and state universities.
- To determine the influence of the use of Koha open source software on selection of library automation in federal and state universities.
- To determine the influence of the use of Koha open source software on implementation of library automation in universities.
- To determine the joint influence of the use of Koha open source software on planning, evaluation, selection, implementation and library automation in federal and state universities.

Research Questions

The following research questions were posed to guide the study:

- What is the influence of the use of Koha open source software on planning of library automation in federal and state university libraries in south-south zone of Nigeria?
- What is the influence of the use of Koha open source software on evaluation of library automation in federal and state university libraries in south-south zone of Nigeria.

- What is the influence of the use of Koha open source software on selection of library automation in federal and state university libraries in south-south zone of Nigeria.
- What is the influence of the use of Koha open source software on implementation of library automation in federal and state university libraries in south-south zone of Nigeria.
- What is the joint influence of the use of Koha open source software on planning, evaluation, selection and implementation of library automation in the university's libraries in south-south zone of Nigeria.

Hypothesis

The research formulated five null hypotheses to guide the study:

- Ho₁:** There is no significant influence of the use of the Koha open source software on planning of library automation in university libraries.
- Ho₂:** There is no significant influence of the use of the Koha open source software on evaluation of library automation in university libraries.
- Ho₃:** There is no significant influence of the use of the Koha open source software on selection of library automation in university libraries.
- Ho₄:** There is no significant influence of the use of the Koha open source software on implementation of library automation in university libraries.
- Ho₅:** There is no significant influence of the use of the Koha open source software on planning, evaluation, selection and implementation of library automation in university libraries.

Significance of the Study

The outcome of this research would be beneficial to the following persons: librarians, library management, educational planners, library users, and researchers. It will also add to the existing literature in this field of study.

The findings of the research are hoped to enlighten librarians on software packages and library automation and aid in decision making with regards to effective planning, selection, evaluation and implementation towards goals actualization.

This study adopted the expo facto research method in carrying out the investigation. This method was chosen because the events under study has already occurred and cannot be manipulated by the researcher.

METHODS

Instrumentation

The main instrument for data collection was the questionnaire titled "Use of Koha open source software and library automation questionnaire (UKOSSLA)". The questionnaire has three sections and was structured using modified Likert four points rating scale. These instruments were validated. To test the reliability of the instrument, 30 copies of the questionnaire were given to the respondents in Abia State. The data obtained were tested for reliability through the use of Cronbach's Alpha statistical analysis. The result of the reliability test showed reliability co-efficient of .83, which showed a high reliability rate of the instrument for data collection and could produce good result.

Methods of Data Collection and Analysis

The researcher administered the instruments to the respondents with the assistance of colleagues in the selected universities. Data collected were analyzed using mean and standard deviation (mean scores) for the research questions. The cut off marks for the mean scores was the significant mean score were significant while T-test will be used for testing the hypotheses at 0.05 level of significance.

RESULTS

Ninety-Eight (98) copies of the questionnaire were distributed and all were completed properly returned and found to be in a usable form. This showed a 100% return rate. Table 1 show the questionnaire distribution and return rate.

Table 1: Questionnaire Distribution and Return Rate

Number Distributed	Number Returned	% of Return
98	98	100

Data Analysis According to Research Questions

Research Question One: What is the influence of the use of Koha Open Source Software on planning of library automation in federal and state universities' libraries in south-south zone of Nigeria?

Table 2: Mean scores of the respondents on the influence of use of Koha open source software on planning for library automation (N = 98)

S/N	Planning	SA	A	D	SD	Mean	SD	Remark
1.	There is framework software planning modules	35	49	14	0	3.21	0.68	Agreed
2.	We are very co-operative, hence adhering to software and hardware specifications while planning for library automation software is very common	27	57	14	0	3.13	0.64	Agreed
3.	Software experts/ professionals are involved in library automation	52	32	14	0	3.39	0.73	Agreed
4.	There is information about the current state of the library system.	26	58	14	0	3.12	0.63	Agreed
5.	There is effective library management team in the event of planning for library automation software.	32	52	14	0	3.18	0.66	Agreed
Grand mean						3.21	0.67	Agreed

Result in table 2 shows that all the question items such as framework for library automation software planning modules, been co-operative, involvement of software experts and professionals, information about the current state of the library system and effective library management team are agreed. This is shown by their grand mean scores of 3.21 for the items indicate that the respondents agreed that use of Koha open source software on planning do influence library automation in federal and state universities libraries in south-south Nigeria.

Research Question Two: What is the influence of the use of Koha open source software on evaluation for library automation?

Table 3: Mean scores of the respondents on the influence of Use of Koha open source software on evaluation for library automation (N=98)

S/N	Evaluation	SA	A	D	SD	Mean	SD	Remark
1.	Simultaneous consideration of multiple attributes to rank the available attributes among the best software is considered.	60	38	0	0	3.61	0.49	Agreed
2.	The general principle used for software is given full priority when evaluating.	60	38	0	0	3.61	0.49	Agreed
3.	Skill management professional handle the evaluation processes.	46	52	0	0	3.47	0.50	Agreed
4.	The functionality of the software modules speed promptly service delivery.	41	57	0	0	3.42	0.50	Agreed
5.	Internet services are available for software installation.	35	38	60	3.46	0.75	0.66	Agreed
Grand mean						3.51	0.55	Agreed

Result in Table 2 shows that all the questions items were agreed. The grand mean of 3.51 for the items indicate that the respondents agreed that the use of Koha open source software on evaluation do influence library automation in federal and state universities' libraries in south-south zone.

Research Question Three: What is the influence of the use of Koha open source software on selection for library automation?

Table 4: Mean scores of the respondents on the influence of use of Koha open sources software on selection for library automation (N=98)

S/N	Selection	SA	A	D	SD	Mean	SD	Remark
1.	Open source software facilities facilitate goal directed activities.	26	72	0	0	3.27	0.44	Agreed
2.	It allows for free modification and re-orientation to suit the entire library staff.	57	41	0	0	3.58	0.50	Agreed
3.	The system allows maximum opportunity for self-service features and user manipulation of the software.	46	38	14	0	3.33	0.72	Agreed
4.	The software is very friendly and facilitate uniformity of bibliographic records of the entire system.	27	38	0	0	3.28	0.45	Agreed
5.	There is availability of technical support to be used both for online and offline help	60	71	0	0	3.61	0.49	Agreed
Grand mean						3.41	0.52	Agreed

Results in Table 3 shows that all the question items were agreed. The grand mean of 3.41 for the items indicated that the respondents agreed that use of Koha open source software on selection do influence library automation in federal and state universities' libraries in south-south zone.

Research Question Four: What is the influence of the use of Koha open source software on implementation for library automation?

Table 5: Mean scores of the respondent on the influence of use of Koha open source software on implementation for library automation (N=98)

S/N	Implementation	SA	A	D	SD	Mean	SD	Remark
1.	The entire system create effectiveness and efficiency in service delivery	41	57	0	0	3.42	0.50	Agreed
2.	Infrastructure (hard work, software and network) facility is readily available in the library	47	13	38	0	3.09	0.93	Agreed
3.	The maintenance system in the library is very adequate	41	14	43	0	2.98	0.93	Agreed
4.	There is free information flow among library staff regarding the concept of library software	46	14	38	0	3.08	0.93	Agreed
5.	The library system is well equipped with suitable desktop for software installation	39	21	38	0	3.01	0.89	Agreed
Grand mean						3.12	0.84	Agreed

Results in Table 5 shows that all the questions items were agreed. The grand mean of 3.12 for the items indicate that the respondents agreed that use of Koha open source software on implementation do influence library automation in federal and state universities' libraries in south-south zone.

Research Question Five: What is the joint influence of use of Koha open source software on planning, evaluation, selection and implementation of library automation in the universities' libraries in south-south zone of Nigeria?

Table 6: Mean scores of respondents on joint influence for library automation

S/N	Joint Influence	SA	A	D	SD	Mean	SD	Remark
1.	I have free hand to keep track of users using the library.	47	46	5	0	3.43	0.59	Agreed
2.	I track detailed description above the books a library contains.	26	72	0	0	3.27	0.44	Agreed
3.	I manage the library with more convenience and in a more efficient way.	19	46	33	0	2.86	0.72	Agreed
4.	There is prompt information retrieval of information resources in the library.	46	52	0	0	3.47	0.50	Agreed
5.	I enjoy current and relevant information according to demand.	39	45	14	0	3.26	0.69	Agreed
6.	There is resources' sharing among libraries.	39	45	14	0	3.26	0.69	Agreed
7.	There is professional manpower time saving in performing library routine technical works.	33	65	0	0	3.34	0.48	Agreed
8.	There is under dissemination of information products and timely provision of services.	26	72	0	0	3.27	0.44	Agreed
9.	There is increase in staff productivity.	24	46	28	0	2.96	0.73	Agreed
10.	I manage physical and financial resources of the library system.	38	32	14	14	2.96	1.05	Agreed
						3.21	0.63	Agreed

Results in table 6 shows that all questions items were agreed upon. The grand mean of 3.21 for the items indicate that the respondents agreed that joint influence of Koha open source software variables do influence library automation in federal and state universities' libraries in south-south zone.

Hypothesis Testing

Research Hypothesis One: There is no significant influence of the use the Koha open source software for planning on library automation in federal and state universities' libraries in south-south zone

Variables	Mean	N	Std Deviations	T-Cal	T-Crit
Planning	16.04	98	3.06	38.14	1.98
Library automation	32.05	98	3.87		

Significant at $P < 0.05$; $df = 97$

From the result, we can see that the calculated T-value of 38.14 is greater than the critical T-value of 1.98 at .05 level of significance with 97 degrees of freedom, so the null hypothesis (H_{01}) that there is no significant influence of the use of Koha open source software for planning on library automation in federal and state universities' libraries in south-south zone is rejected. This means we shall accept the alternate hypothesis (H_{01}) and conclude that there is significant influence of the use of Koha open source software for planning on library automation in federal and state universities' libraries in south-south zone.

Research Hypothesis Two: There is no significant influence of the use of Koha open source software for evaluation on library automation in federal and state universities in south-south zone.

Table 8: Summary of Dependent T-test analysis of influence of Koha open source software for evaluation on library automation in federal and state universities' libraries in south-south zone

Variables	Mean	N	Std Deviations	T-Cal	T-Crit
Evaluation	17.57	98	2.23	30.36	1.98
Library automation	32.05	98	3.87		

Significant at $P < 0.05$; $df = 97$

From the result we can see that the calculated T-value of 30.56 is greater than the critical T-value of 1.98 at .05 level of significance with 97 degrees of freedom, so the null hypothesis (H_{02}) that there is no significant influence of the use of Koha open source software for evaluation on library automation in federal and state universities' libraries in south-south zone is rejected. This means we shall accept the alternative hypothesis (H_{02}) and conclude that there is significant influence of the use of Koha open source software for evaluation on library automation in federal and state universities' libraries in south-south zone.

Research Hypothesis Three: There is no significant influence of the use of Koha open source software for selection on library automation in federal and state universities' libraries in south-south zone.

Table 9: Summary of Dependent T-test analysis of influence of the use of Koha open source software for selection on library automation in federal and state universities' libraries in south-south

Variables	Mean	N	Std Deviations	T-Cal	T-Crit
Selection	17.06	98	1.70	33.38	1.98
Library automation	32.05	98	3.87		

Significant at $P < 0.05$; $df = 97$

From the result we can see that the calculated t-value of 33.28 is greater than the critical t-value of 1.98 at .05 level of significance with 97 degrees of freedom, so the null hypothesis (H_{03}) that there is no significant influence of the use of Koha open source software for

selection on library automation in federal and state universities' libraries in south-south zone is rejected. This implies we shall accept the alternative hypothesis (H_{03}) and conclude that there is a significant influence of the use of Koha open source software for selection on library automation in federal and state universities' libraries in south-south zone.

Research Hypothesis Four: There is no significant influence of the use of Koha open source software for implementation on library automation in federal and state universities' libraries in south-south zone.

Table 10: Summary of dependent t-test analysis of influence of the use of Koha open source software for implementation in library automation in federal and state universities' libraries in south-south zone

Variables	Mean	N	Std Deviations	T-Cal	T-Crit
Implementation	15.58	98	3.78	35.17	1.98
Library automation	32.05	98	3.87		

Significant at $P < .05$; $df = 97$

From the result we can see that the calculated t-value of 35.17 is greater than the critical t-value of 1.98 at .05 level of significance with 96 degrees of freedom, so the null hypothesis (H_0) that there is no significant influence of the use of Koha open source software for implementation on library automation in federal and state universities' libraries in south-south zone is rejected. This implies that we shall accept the alternate hypothesis (H_{04}) and conclude that there is significance influence of the use of Koha open source software in the implementation of library automation in federal and state universities' libraries in south-south zone.

Research Hypothesis Five: There is no significant joint influence of the use of Koha open source software for planning, evaluation, selection and implementation on library automation in federal and state universities' libraries in south-south zone.

Table 11: Summary of multiple linear regression of the joint influence of the use of Koha open source software for planning, evaluation, selection and implementation on library automation (N=98)

Model	Sum of squares	Df	Mean square	T-cal	T-crit
Regression	498.763	4	123.691	12.13	2.46
Residual	955.982	93	10.229		
Total	1454.745	97			

$R = 586$; $R^2 = 343$; Adjusted $R^2 = 315$; significant at .05

The result presented in Table 11 revealed that $R =$ value of 586 which indicates the strength of the influence of the use of Koha open source software for planning, evaluation, selection and implementation on library automation while the $R^2 =$ value of 343 indicates that only 34.3% variation in library automation is explained or accounted for by the joint influence of the use of Koha open source software for planning, evaluation, selection and implementation, so the null hypothesis that says there is no significant joint influence of the use of Koha open source software for planning, evaluation, selection and implementation on library automation in federal and state universities' libraries in south-south zone is rejected. This implies that we shall accept the alternate hypothesis (H_{05}) and conclude that there is significant joint influence of the use of Koha open source software for planning, evaluation, selection and

implementation on library automation in federal and state universities' libraries in south-south zone.

DISCUSSION

The result of the study in table 2 show that the Agreed Grand mean influence made 3.21 obtained in the use of Koha open source software influence of planning on library automation in federal and state universities' libraries in south-south zone, Nigeria. This result is in accordance with the findings of Mitala and Kalaole (2010), Otunla and Akanmu (2010) and Randhara (2013) that the use of Koha open source software for planning library automation has positive effect on library use. It was revealed that planning in the product of a complex balance of many ingredients, most especially Koha open source software which is the most significant and powerful predication of library automation.

Moreso, results in Table 2 shows that 3.51 Grand mean of all the subject items contribute to the mean score of influence of evaluation on library automation in federal and state universities' libraries in south-south zone of Nigeria. This result is in conformity with the findings of Breeding (2012) that the ability to evaluate return on our investment gives us the basis on which to choose between alternative. Also Harish (2007) opines that the evaluation of the software is to be able to use the in-house software developed and maintained by libraries.

Vimal and Jasimudden (2012) asserted that the proper selection of the software is the key factor for any library that will attain higher productivity and user's satisfaction. Thus, the Grand mean of 3.41 influence the use of Koha open source software on selection for library automation in federal and state universities' libraries in south-south, Nigeria

Also, in Table 4 shows that all the subject items are agreed. Hence, it indicated that 3.12 Grand mean score agreed in the influence of implementation on library automation in the use of Koha open source software. It agrees with Aswal (2006) who support the view that implementation of Koha open source software are capable of improving productivity, giving patrons better satisfaction and quality of services and dissemination of information in university libraries.

Finally, on the joint influence of planning, evaluation, selection and implementation for library automation, Table 5 revealed that there exists joint influence. Hence the Grand mean 3.21 indicates the strength of the influence of the use Koha open source software for planning, evaluation, selection and implementation on library automation. It corroborates with Ogbenege and Adetimirin (2013) which affirm that the application of automation variables enhance Koha integration and allow automaton of information and knowledge management operations.

CONCLUSION

This study investigates the use of Koha open source software and library automation in federal and state universities' libraries in south-south, Nigeria. The study concludes that all four selected Koha open source software variables: planning, evaluation, selection and implementation are significant predictors of the Use of Koha open source software and library automation in federal and state universities' libraries in south-south zone of Nigeria. Hence, they should be given necessary attention to engender library automation software effectiveness, efficiency and achievement of library goals.

Recommendations

Based on the findings and conclusion drawn, the following recommendations are made for implementation:

- The involvement of software experts in the planning and selection process should be considered by library management.
- The provision of strong infrastructural based that will sustain the selection practices and the creation of well-organized databases and internet connectivity capable of ensuring smooth efficiency and effectiveness of library routines operations.
- Universities library management should conduct a feasibility study of the library needs and it analysis before embarking on library automation.
- All necessary facilities for effective service delivery should be assessed and put in place for library automation output, since there exist a joint variable in library automation.
- The universities' library management should ensure that there is always good working relationship and communication flow among all software experts and to all concerned.

REFERENCES

- Aswal, R. S. (2006). *Library Automation for 21st Century*, New Delhi: ESS Publications. 5-8.
- Breeding, M (2012). *Open Source Integrated Library Systems*. ALA Tech Source. Retrieved from <http://www.alatechsource.org/itr/open-source-integrated-library-systems>.
- Harish, C. (2007). *Information Tech Based Library and Information Services: A case study of IT Madras*, National seminar on Challenges of University Libraries at India in the 21st Century. ILA Vadodave.
- Otunla, A. O., and Akanmu-Adeyemo, E, A (2010). *Library Automation in Nigeria, the Bowen University Experience*. *African Journal of Library, Archives and Information Science*, 20(2), 93-102.
- Projectlinke Konsult Limited (2010). *Introducing Koha an Integrated Library Management System*. Ibadan: Blue Print Concept.
- Randhawa, S (2013). *Open Source Library Management*. *E-Library Science Research Journal*, 1(7).
- Senthil Kumaran, P., & Srega, K. P. (2017). *A Study of Managing Koha Open Source Library Management System in the University Library, Central University of Kerala*. *International Journal of Research in Library Science*, 3(1), 91-01
- Ukachi, N. B., Nwachukwu, V. N., & Onuoha, U. D (2014). *Library Automation and Use of Open Source Software to Maximize Library Effectiveness*. *Information and Knowledge Management*, 3(4). 74-82.
- Vimal, K. V., & Jasimudeen, S. (2012). *Adoption and user Perceptions of Koha Library Management System in India*. *Annals of Library and Information Studies*, 59(4), 223-230.
- Wikipedia (2012). *Koha (software)*. Retrieved from <http://en.wikipedia.org/wiki/koha%28software%29>.
- Yang, S, Hofmann, M. A., & Weeks, M. (2009). *Koha Evergreen and Voyages: A comparison of their OPACs*. Retrieved from <https://docs.google.com/viewer?&gcache>

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