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November 2018

Sustainability of Library Automation in Nigerian Libraries: A Case for KOHA Open Source Software

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SUSTAINABILITY OF LIBRARY AUTOMATION IN NIGERIAN LIBRARIES: KOHA OPEN SOURCE SOFTWARE

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ABSTARCT

This study examined the sustainability of Library Open Source Software (with particular reference to KOHA) in Nigerian academic and research Libraries. Descriptive survey design was adopted with a total number of thirty five (35) libraries which were selected purposefully all over the six (6) geopolitical zones of Nigeria (twenty universities, both privates and publics, ten Polytechnics, and five colleges of education). Structure Questionnaire was used to generate data and this was analyzed using simple frequency and percentage. It was revealed that koha is gaining ground in Nigeria because of its reliability and community involvement. It also revealed that lack of institutional support; inadequate information and negative attitudes of librarians were some of the challenges facing adoption and utilization of koha in Nigeria. The study however made some recommendation.

Key words: sustainability, library automation, libraries, koha

INTRODUCTION

Nigerian libraries and librarians are not ignorant of the enormous role of library management systems in meeting the information needs of the 21st century library users. These 21st library users are more sophisticated in their quest for information. In order to satisfy these set of users, libraries have shifted from the traditional way of acquiring, processing, storage and

disseminating information a more feasible way. Libraries are no longer resources' centric but users' centric. In view of this the use of open source software packages is being embraced by libraries and librarians for effective operations and productivity. The question is "how sustained are these packages?"

Sustainability in relation to library is the physical development and institutional operating practices that meet the needs of present users without compromising the ability of future generations to meet their own needs (UCLA, nd). For libraries to be sustained in this era of global village as a result of Information Communication Technology, they must be ready to transform their operations and information environment through automation and still meet users' needs promptly.

Automation is the use of computers to perform duties that are done manually (author). Therefore, Library automation can be defined as the utilization of computer and other information communication technologies for provision of better, wider, immediate and relevant information to users at the right time in order to sustain and manage different library resources and operations such as acquisition, cataloguing, circulation, serials and provision However, the emergence of new technologies pose challenge of information explosion to libraries and in an attempt to proffer solutions to these challenges, the information professionals also make good use of these new technologies as tools with which library operations and resources are projected to the whole world. According to Ranganthan (2006), a growing organism takes in new matter, casts off old matter, changes in size and takes new shapes and form. That is why any library, irrespective of its location and origin, must continue to grow in all aspects or face extinction. Thus, as Nigerian libraries grow in collections and users, they are also being challenged to grow in collection management as well as information services delivery. This becomes even more imperative as the library clientele continue to become more sophisticated and diverse in their information needs.

According to Abbas (2014) automation is the reality of 21st century and any library that ignores its capability in transforming the information environment is at risk of losing ground. That is why various efforts have been made since the 1970s to automate library activities.

(Onohwakpor 2006) submitted that library is a store of knowhage, indispensable to the success of any functional education. It can be seen as a tool for sustaining the growth and development of any Country.

PROBLEM STATEMENT

Nigerian libraries have invested a lot of time, money and energy to see that their services and operations become automated. This is to keep in line with global best practices as well as the tradition of the library itself as encapsulated by one of the five laws of librarianship formulated by S. R. Ranganathan that, the library is a growing organism. Unfortunately, most of the efforts yielded underwhelming returns which has inhibited the spread of library automation in Nigeria. Nevertheless, it is expected that the arrival of Open source Integrated Library Software (ILS) will revived the hope of Nigerian Libraries in catching up with the rest of the world in term of information dissemination to users using modern technologies. However, so many libraries in Nigeria find it difficult to sustain these open integrated library software. Is KOHA sustained?

Objectives of the Study

The broad objective of this study is to examine factors that sustain koha adoption and implementation in Nigeria academic libraries.

The specific objectives are to:

1. ascertain reasons for adopting KOHA software in Libraries

2. find out reasons for not adopting KOHA software in Libraries

3. determine the sustainability plans put in place in libraries.

LITERATURE REVIEW

The advent of KOHA and other Open Source Software has made the transition from traditional to technology based library services which gives room for more efficient service provision very easy and cost effective hence, libraries are now adopting them in their technical services, digitization processes, and general library content management (Ukachi, 2012).

According to Adara (2010) Koha is the first open-source integrated library software (ILS) in use worldwide by public, schools and special libraries which its development was steered by a growing community of libraries and users collaborating to achieve their technological goal. The name *koha* comes from a Mãori term for a "*gift*" or "*donation*". Koha is a web-based ILS, with a SQL database (MySql preferred) backend, cataloguing data stored in MARC and accessible via Z39.50. (Projektlink 2010).

The studies of Uzomba; Oyebola and Izuchukwu (2015); Akpokodje and Akpokodje (2015); Omeluzor; Adara; Ezinwayi; Bamidele and Umahi (2012) and Breeding (2009) have established the effectiveness of KOHA for all types of libraries. Moreover, there are official and unofficial KOHA online communities created to further train and empower Librarians of all backgrounds to become adept at tinkling with the software and thus eliminate the manpower and technical issues. The developers of KOHA and other Open Source software released their source codes so they could become publicly owned and thus stimulate innovation and capacity development. (Breeding, 2008).

HISTORY OF AUTOMATION IN NIGERIA

The earliest attempt at library computerization in Nigeria was recorded in the late 70s. As observed by Roknuzzaman, (2006), the higher academic institutions of a country are pioneers in adopting and using ICT. Unsurprisingly, library automation in Nigeria was spearheaded by academic libraries. Adegbore (2010) reported that University of Lagos, University of Ibadan, and Ahmadu Bello University, Zaria, all started computerization projects in the mid 1970s and 1980s.

Agboola(date) as cited by Uzomba et al (2015) stated that the greatest impetus to library automation in Nigerian university libraries came from a World Bank project which gave automation as one of its conditions for support. As a result, the National University Commission (NUC) presented one microcomputer and a four-user local area network version of the The Information Navigator (TINLIB) software to each of the 20 participating libraries in 1992. This was after an agreement had been reached between the NUC and the University Librarians that all Federal Universities should use common software (Ogunleye, 1997). However, the automation could not be sustained. Many libraries in Nigeria ran into one problem or the other due to the wrong choice of library software. Obajemu; Osagie; Akinade and Ekere (2013) reported that the use of TINLIB software in some Federal universities had to be discontinued due to some

technical difficulties, maintenance problem, poor revision policy and the prohibitive cost of processing and maintaining it.

Umeluzor et al (2012) also narrated the frustrating experience of Babcock University with the X-Lib software and its vendor. They lamented that; the software served for some time and later became prone to several challenges which were insurmountable.

It is therefore safe to assert that aside from University of Jos which adopted KOHA after a fire accident destroyed its legacy software, VIRTUAL ILS many other Libraries adopted KOHA in order to escape proprietary software that are more problematic than helpful. (Akpokodje & Akpokodje, 2015).

WHY KOHA?

Ironically, libraries in the developed world are also adopting KOHA and other open source software due to frustration and dissatisfaction with proprietary ILS. In a survey of 20 United States Libraries, Singh (2013) reported that some libraries migrated to a new ILS due to frustration encountered with the previous one. Omeluzor, et al (2012) observed, that KOHA has been adopted by thousands of libraries worldwide and customized to suit purpose. It has found wide acceptability in many libraries of the world, including developing countries like Nigeria since it has proved to be more reliable and effective. Its main attraction to Nigerian libraries is its reliability and flexibility (Sheeja, 2010; Vimal & Jasimideen, 2012; Brice & Ames, 2014; Uzomba et al 2015; Harris & Ummu, 2015; Adekunle, Olla &, Oshiname, 2016)

Wheeler (2007) stated that open source software gives users the freedom to run the program for any purpose, to study and modify the program, and to redistribute copies of either the original or modified program without having to pay royalties to previous developers. It offers more flexibility and freedom than software purchased with license restrictions. Both the open source software programmers and the user community share and promote open standards and believe in sharing. Ukachi (2012) again stressed that the major reason to choose an OSS application is the freedom it confers to change the source code for individual requirements. It gives room for alteration of the program to suit your purpose.

Apart from cost and functionality, another reason why KOHA ILS appeals to libraries is its underlying philosophy of open source and open access that are philosophically linked to intellectual freedom, which is ultimately the mission of libraries. (Singh, 2013).

WHY KOHA HAS NOT GAINED WIDE ACEPTANCE

Despite the intention of the promoters of the Open Source ILS and the perceived benefits of a cost effective library automation projects it offers, African libraries are still being hampered in the adoption and implementation of KOHA and other open source software by age old challenges.

In a study by Uzomba, et al (2015), it was found out that insufficient manpower , lack of supervision , inadequate managerial support, erratic power supply , cost of procurement of the hardware/software , maintenance cost , vendor's insincerity , lack of consortium , apathy on the part of library staff , inadequate funding ,and lack of training and re-training of staff as part of the problem encountered in the use of open source software. This is corroborated by Buwele and Ponelis (2015) that adoption of an ILS in Kyambogo University, Uganda is still an ongoing process and continuously faces hardships such as: lack of a systematic implementation plan, requisite in-house ICT skills is not entirely in place for customization and full exploitation through lack of formal technical support.

Similarly, while enumerating barriers to library automation in Pakistan and India respectively, Mishra (2015), Vimal & Jasimudeen, (2012) stated lack of proper planning and competent and willing staff. Khan and Mahmood (2010) also identified factors which include "absence of planning, software/hardware problems, lack of cooperation, lack of competent and willing manpower, nonexistence of standards, financial limitations and absence of consultants and experts as major barrier to automation.

Furthermore, there has also been push back against the adoption of open source ILS by some librarians. Clarke (2000) cited in Uzomba, et al (2015), acknowledged that some libraries choose proprietary software because they lack the necessary technical skills to support Free and Open Source/ in-house. This may be due to lack of information on the current automation terrain (Ukachi, 2012). In fact, the developers of KOHA and other Open Source software released their

source codes so they could become publicly owned (Breeding, 2012) and thus stimulate innovation and capacity development.

SUSTAINABILITY OF KOHA

Available literature shows a glimpse of how Nigerian libraries are going about ensuring the sustainability of automation projects. Omeluzor et al (2012) identified a good critical appraisal of the proposed ILS involvement of the users' right at the implementation stage; continuous training for librarians and library users as well as a solid publicity plan as critical ingredients in ensuring the sustainability of any automation project.

Perhaps the expected tidal wave of library automation based on the opportunities offered by KOHA did not materialize due to lack of a meaningful national or regional coordination and advocacy. In Nigeria, the major promoter of KOHA is Projektlink Consult Ltd, a private KOHA support company (Adara, 2012). Despite the efforts of Projektlink to publicize KOHA in Nigeria, there has been only a marginal increase in libraries willing to put their libraries management software on steroids by adopting KOHA.

Bakar, Rahmad, and Amin (2015) in their study submitted that Malaysian academic libraries need to develop internal expert team who can manage the technical and risk in implementation of open source software on how to ensure sustainability after mass adoption of the KOHA software by the country's libraries. Furthermore, to ensure the continuity of open system implementation, the study also suggested that libraries should plan their future and not be too dependent on outside companies and must see a knowledge transfer program as their priority to strengthen internal expertise in open source software.

RESEARCH METHODOLOGY

The study adopted the descriptive survey design with Purposive Sampling Technique. A structured questionnaire was designed using an online questionnaire tool, www.kwiksurveys.com; this is to afford a wider coverage. The link to the questionnaire was sent to the respondents through various media such as WhatsApp, Facebook, Twitter, Email, and

SMS. The questionnaire was divided into four sections, demographic information, reasons for/not adopting koha, sustainability plans, Links was sent to forty respondents, only thirty five responded by filling the questionnaire. Thirty-five libraries (academic and research) from across the six geo-political zones of Nigeria participated in the research.

DATA ANALYSIS

The data collected was analyzed using simple frequency tables and percentage

TABLE 1: STATUS OF REPONDENTS

STATUS	FREQUENCY & PERCENTAGE
Professional Librarian	25 (69%)
Paraprofessional Librarian	9 (25%)
Industrial Training Staff	2 (6%)
Total	36 (100%)

From table 1, it shows 25 (69%), professional Librarians, 9 (25%) paraprofessional librarians and 2 (6%) Industrial training staff members

TABLE 2: GENDER OF RESPONDENTS

GENDER	FREQUENCY&PERCENTAGE
Female	9 (25%)
Male	27 (75%)
Total	36 (100%)

Table 2 reveals 27 (75%) male of the total respondents and 9 (25%) female respondents.

TABLE 3: ADOPTION OF KOHA

ADOPTION	FREQUENCY&PERCENTAGE
YES	21 (58.3%)
NO	15 (41.7%)
TOTAL	36 (100%)

Table 3 shows that 20 (57%) of the respondents adopted KOHA in their libraries while 15(43%) have not adopted the use of KOHA. This study supports Omeluzor, et al (2012) which summits that KOHA has been adopted by thousands of libraries worldwide and customized to suit purpose. It is obvious that KOHA implementation is fast gaining ground in Nigerian libraries.

However, this opposes the study of Ukachi (2012), where 5 (11.9%) out 47 Libraries indicated that they used KOHA software.

TABLE 4: REASONS FOR NON ADOPTION OF KOHA

REASONS FOR NON ADOPTION	FREQUENCY & PERCENTAGE
My Institution is satisfied with the current ILS	4 (11.1%)
Maintenance is costly	0 (0%)
Inadequate information about reliability of koha	8(22.2%)
Lack of IT skills	1 (2.8%)
Lack of support from the Institution	13 (36.1%)
Lack of required hardware	5 (13.9%)
My Library is short staffed	5 (13.9%)
Total	36 (100%)

Table 4 presents reasons why some libraries did not use KOHA software. It reveals that 13 (36.1%) of the total respondents lack support from their institutions, 8 (22.2%) shows inadequate information about reliability of KOHA, while 4 (21%) respondents indicate their libraries' satisfaction with the current ILS and 5 (13.9%) shows lack of required hardware and short staffed respectively. This supports the studies of Adara (2012), Ponelis (2015) and Uzomba, et al (2015) that lack of a meaningful national or regional coordination and advocacy, insufficient manpower, inadequate managerial support, erratic power supply, cost of procurement of the hardware/software inadequate information and inadequate funding as part of the problem encountered in the use of open source software.

TABLE 5: REASONS FOR ADOPTING KOHA

REASONS	STRONGLY DISAGREED	DISAGREED	AGREED	STRONGLY AGREED
Strong Institutional demand for automation.	2 (7%)	1 (4%)	14 (52%)	10 (37%)
Adequate information about reliability of koha	2 (7%)	4 (15%)	11 (41%)	10 (37%)
Koha is easy to maintain	1 (4%)	3 (12%)	10 (40%)	11 (44%)
User friendly	3 (12%)	1 (4%)	8 (31%)	14 (54%)
Koha makes library operations easier and faster	2 (8%)	_	10 (38%)	14 (54%)
Koha increases the visibility of library	2 (7%)	2 (7%)	12 (44%)	11 (41%)
There is solid technical support in place to solve any emerging problems	1 (4%)	5 (18%)	17 (61%)	5 (18%)

Table 5 presents reasons why libraries adopt the use of koha open software in carrying out their operations. It shows that 3 (12%) of the total respondents strongly disagreed that koha is user friendly, while 2 (7%) reveals strong institutional demand for automation, adequate information about reliability of koha, library operations easier and faster and increasing the visibility of libraries respectively are reasons for some libraries adoption of koha. The table further exposes 14 (54%) of respondents strongly agreed that: koha software is user friendly, 11 (44%) makes library operation easier and faster, easy to maintain and increase the visibility of the library respectively. This study is in agreement with the work of (Sheeja, 2010; Vimal & Jasimideen, 2012; Brice & Ames, 2014; Uzomba et al 2015; Harris & Ummu, 2015; Adekunle, Olla &, Oshiname, 2016) that koha has gained wide acceptability in many libraries of the world,

including developing countries like Nigeria since it has proved to be more reliable and effective; its main attraction to Nigerian libraries is its reliability and flexibility.

TABLE 6: SUSTAINABILITY OF KOHA

STATEMENT	STRONGLY DISAGREED	DISAGREED	AGREED	STRONGLY AGREED
There was proper training before the implementation of koha in my Library	3 (10%)	9 (30%)	12 (40%)	6 (20%)
My library has adequate trained staff to handle a full automated library services	2 (6%)	12 (39%)	8 (26%)	9 (29%)
My University supports library automation projects with required resources	4 (13%)	6 (20%)	16 (53%)	4 (13%)
My library provides opportunity for further training on the use of library software	4 (14%)	4 (14%)	16 (65%)	**5 (17%)**
The library staff are enthusiastic for further training on the use of library software	1 (5%)	5 (17%)	18 (62%)	5 (17%)
Library users are enthusiastic about technology use	2 (7%)	2 (7%)	20 (69%)	5 (17%)
Internet connection is stable and adequate in my library	4 (13%)	9 (30%)	12 (40%)	5 (17%)
There is a written document to ensure sustainable library automation	4 (13%)	11 (37%)	14 (47%)	1 (3%)

Table 6 reveals the institutional practices that enhanced the sustainability of automation in libraries. The table shows respondents 12 (39%) and 9 (30%) disagreed that there was adequate trained staff to handle a full automation library services and proper training before implementation of koha. This study is in agreement with that of Bakar, Rahmad, and Amin (2015) that there must be internal training to ensure sustainability of koha.It further reveals 20 (69%), 16 (65%) and 18 (62%) of the total respondents agreed that users are enthusiastic about technology use, libraries provide opportunity for further training on the use of koha software and that staff are enthusiastic for further training on the use of koha software. One can deduce from this finding that librarians are technology driven in provision of needed information to users.

TABLE 7: I WOULD RECOMMEND KOHA TO OTHER LIBRARIES

	YES	NO	MAY BE
RESPONDENTS	30 (91%)	_	3 (9%)

This effective nature of KOHA software is further shown by an overwhelming majority of the respondents 30 (91%) who agreed that they would recommend the use of KOHA to other libraries while 3(9%) are not sure. This corresponds to the findings of Tella & Oladeji (2017).

CONCLUSION

The adoption of KOHA Integrated Library Software is a great opportunity for Nigerian academic and research libraries to expand their technical capabilities because of its open technology. It is therefore imperative to see koha as something beyond reducing cost. It is very important to take open source development program seriously to ensure sustainability and continuity of the software itself.

Nonetheless, the best way to develop Information Technology capacity and wean libraries off an unhealthy dependence on IT consultants to solve the smallest of problems is to participate in various learning opportunities presented by koha Open Source communities.

Libraries must therefore beware lest the vicious cycle of being left in the lurch by 'Technical Partners' repeat itself.

RECOMMENDATIONS

Base on the findings of this study, it is therefore recommended that Libraries which are yet to adopt the use of Software in their library management should consider the use of koha software as quite a number of studies have shown that it is reliable, stable, auditable, cost effective and flexible.

To ensure the sustainability and continuity of open source software, libraries need to join the koha community and contribute towards the development of Open Source Software. Librarians should join and participate in KOHA community discussions, thereby possibly getting relevant features peculiar to their library environment and answers to questions as it is a forum where all questions are given answers to by experienced librarians that use koha.

Furthermore, KOHA users in Nigerian libraries can form a society as platform to plan activities for common interest thereby connect with other open source community at local and international level. The existence of the society and libraries' participation will give additional advantages and adds values to their operations.

There is dearth of knowledge in the area of attitudes of librarians towards koha sustainability and therefore this research recommended that more studies be carried out.

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