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Implementing Koha at Regent University College, Ghana: A case study of options, opportunities and challenges

Kwasi Darko-Ampem

Abstract

This paper shares the automation experience of Regent University College in relation to the selection and implementation of the Koha library management system. It is a first time automation project which looked at the options available to Regent, a private university in Ghana. The background information and the literature review provide the context for the decision to choose the 'independent' route of a wholly in-house solution. Koha as an open source system meets the systems requirements and financial needs of Regent. In addition, it provided the Project team with the 'sandbox' in which to try its hands at offering the Koha solution to Regent. Examples from earlier adopters of Koha guided the selection and adoption and the ten-month account gives the detail of events leading to the selection and adoption. Lessons learnt include the development of staff expertise, working strengths of library and IT staff, and project management skills. The benefits are cost savings made for the parent institution and service

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improvement for the Regent Ghana Library. The major challenge was staff time and commitment to the full implementation of the project. Also, as the first reported case study on Koha in Ghana, it serves as guide to would-be adopters of the library system.

Introduction

Regent University College of Science and Technology is a private Ghanaian university established in 2003 with a current student population of about 2000. Until June 2015 when the University moved to its permanent campus at McCarthy Hill on the Winneba-Kasoa road, it operated from four campuses: Adom, City, Kings and Roquah, all in Accra. It is an avowed Christian institution with a passion to train transformational leaders for Ghana and Africa (Regent, n.d.). According to the design brief (Regent, 2010), the new campus project is ambitious, with four building projects running concurrently. The largest of them all is a five-storey academic block, which has nine lecture theatres, offices and classrooms of various sizes. A five-storey multi-purpose block was completed on time for the start of the 2015/16 academic year in September. Originally called the catering and examinations block, the multipurpose administration block is being used for classrooms, management and staff offices. The third project is a five-storey students' hostel and the last of the four current projects is the Auditorium. Future physical infrastructure development projects include a four storey library block, an administration block and a four storey sports complex.

Regent Ghana Library on the main permanent site was set up from the four campus libraries in January 2015. The Library occupies part of the ground floor of a refurbished three-storey building, which is at present being used as offices, classrooms and laboratories. One

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missing but basic academic library service was photocopying and printing. Library users had difficulty taking books out of the library for copying and there was no printer in any of the campus libraries. Despite these shortcomings, the campus libraries offered very conducive learning environments with free internet access for all users. Like most academic libraries in Ghana, the libraries have adopted the Library of Congress classification system. The libraries' web pages provided access to the electronic resources needed for the academic programmes of the University. The libraries held membership of CARLIGH (Consortium of Academic and Research Libraries in Ghana) which entitled them to subsidies on electronic subscriptions.

The four campus libraries did not have a common catalogue for the collections. Each one operated as a separate entity even though the Chief Library Coordinator had oversight responsibility for all of them. He was supported by an Assistant Librarian, the only other professional member of staff, who left the University in January 2015. Each library kept a record of the collection as an MS Access database. Therefore, an inter-campus library loans service was not possible and there were many duplicate copies of essential text books. The libraries did not offer book loans to students because there was no modern electronic system for this service. The few loans were made to lecturers manually by recording them in notebooks. The need for a modern integrated library management system was evident. Even though the books were barcoded, they used different systems which reinforced the separate campus management style of the collections. There was no book detection system at the entrances and exits resulting in the inevitable loss of essential but pricey books.

The thought about a modern library management system saw Koha as a strong candidate. Koha provides libraries with a cost effective alternative to the traditional commercial model of

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software license and expensive annual maintenance costs. Apart from catering for all library

operations with its full compliments of acquisitions, cataloguing, serials and circulation modules

(Venkatarama Reddy, 2011), the following attracted the Regent Ghana Library to adopt Koha:

low budget, large user community, an international community of developers, and an intuitive

and user-friendly interface. It is also MARC compliant to allow for the importation of

bibliographic records (Venkatarama Reddy, 2011; Otunla & Akanmu-Adeyemo, 2010;

DELNET, n.d.) Koha is widely used around the world by a growing community of libraries

collaborating together to achieve technology and service goals (Omeluzor, Adara, Ezinwayi, &

ObyUmahi, 2012). Libraries that adopt Koha are not tied to a particular vendor. Neither do they

pay annual license fees because the software is free. They can contract established service

providers for hosting and technical support. The Koha ILS (Integrated Library System) provides

an entirely web based system, a flexible solution offering many of the benefits associated with

the integration of other web based services, including social media functionality (Venkatarama

Reddy, 2011; Egunjebi, 2012; Müller, 2012 (as cited in Omeluzor, et al., 2012); Biju,

Jasimudeen, & Vimal Kumar, n.d.).

A very detailed list of the functionalities of Koha is presented by Interleaf Technology

(2015), a Koha service provider. The functionalities list Koha as a browser based system. This

means there are no client licences to install on individual workstations, simplifying system

administration. Koha supports the full suite of library functions: cataloguing, circulation, OPAC,

acquisitions, serials, SIP (Session Initiation Protocol) etc. in a consistent and easy to use

interface. The Koha OPAC is smart device friendly allowing staff and user interface to be

accessed on tablets and smartphones. 'Imagine your staff roaming through the library with the

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full circulation module available on their tablet, helping users. They can issue and return items, register new borrowers, place requests, search the catalogue - all the functions of Koha available at their fingertips' (Interleaf Technology, 2015). Release notes for Koha 3.18.9 confirms Koha as 'the first free and open source library automation package.'

DELNET (n.d.), a third party service provider for Koha, lists the following features about Koha: in use worldwide in libraries of all sizes, Koha is a true enterprise-class ILS with comprehensive functionality including basic and advanced options. Koha uses a dual database design that utilizes the strengths of the two major industry-standard database types (text-based and RDBMS). It is built using library standards and protocols that ensure interoperability between Koha and other systems and technologies, while supporting existing workflows and tools; OPAC, circulation management and self-checkout interfaces are all based on standards compliant with World Wide Web technologies, XHTML, CSS and JavaScript, making Koha a truly platform-independent solution. It is distributed under the open-source General Public Licence.

However, the downside of Koha is expressed by Mace (2015). He admits that one of the major strengths of Koha, as well as one of its limitations, is that it is an open source system. With open source software, the library's dependence on a proprietary provider for a business-critical system is reduced, allowing greater control over data and software. Koha's strength is derived from its large user community, but this can also be a limitation:

It requires increased cooperation and interaction with the community in order to get the development that the library wants included in future updates. Libraries that instead opt to develop themselves, regardless of the needs of the community, risk

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creating a proprietary version of Koha- 'forking the system' in technical terms (Mace,

2015, p. 4).

Problem Statement

The appointment of a substantive head of the library in September 2014 coincided with

the amalgamation of the campus libraries into one library on the permanent campus. In January

2015, the head librarian who had been working from the City campus library moved to the

permanent site at McCarthy Hill. Library management started looking for solutions to improve

the services to the user community and first on the priority list was the search for a modern

library management system. A brief survey of academic libraries in the country showed that

most of the sixty odd universities, both private and public, were at various stages in the process

of adopting a library management system for their operations. With the exception of the premier

university, University of Ghana-Legon, which has the Millennium Integrated Library System,

other public universities like the University of Cape Coast and Kwame Nkrumah University of

Science and Technology (KNUST) have shied away from expensive library systems. Cape Coast

had selected Koha, and KNUST is seriously considering it (J. Mingle, personal communication,

June 2015).

Anecdotal evidence points to the fact that all academic libraries in the country are looking

at cutting costs by choosing a non-propriety library management system. Furthermore, the library

supply market in Ghana is non-existent. Therefore every choice about a library management

system has to involve looking outside the country, whether that means the UK, Europe, the US

or South Africa. Osaniyi, 2010; as cited in Omeluzor, et al., 2015) lamented that the major

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problem that libraries in Nigeria have with international vendors relates to cost and support. This

applies equally to the Ghanaian situation because the local library markets in both countries are

similar as far as technical support and systems suppliers are concerned. In recent times, though,

CARLIGH (Consortium of Academic and Research Libraries in Ghana) has introduced member

institutions to Koha by running workshops to equip and develop local expertise among librarians.

Therefore there is some level of local capacity in the installation, configuration and use of Koha.

Besides, there is no formal Koha user group in Ghana, and information on libraries that have

adopted Koha is not available on the Koha group website. Some libraries known to be using

Koha in Ghana include the Presbyterian University College, University of Cape Coast,

Wisconsin International University, Accra Polytechnic, and the Association of African

Universities. Others thinking of using Koha are KNUST and University for Development Studies

(J. Mingle, personal communication, June 2015).

Apart from the attractive functionalities of Koha, the selection of a library system needs

to be made carefully based on factors such as technical, financial and human expertise. It is the

view of Biju, Jasimudeen, and Vimal Kumar (n.d.) that implementation of open source ILS is

difficult for library professionals because of its complex installation procedure. Their view is that

most of the open source software is suitable for libraries' work only with the Linux operating

system. Yet, it is more difficult to install Linux than a user friendly Windows based software

platform. An expert is recommended to install Koha unless library staff are proficient in Linux.

This view is shared by DELNET (n.d.): there are hardware, software, human resource, and

technical support needs and implications for any such project. Implementation presented three

options (Bimbe, 2012). The first option is fully self- managed where there is no vendor service

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and installation, and where configuration, customization, migration, and hosting are all done in-house. The second option has third party involvement with installation, configuration, and customization. In the third option there is complete outsourcing: installation, configuration, customization, migration, hosting, and server management are all done by the vendor. The second and third options also come with staff training costs.

Literature Review

Developments in new technologies led to Open Source Library Management Systems (OS LMSs). The term 'open source' refers to something that can be modified because its design is publicly accessible. While it originated in the context of computer software development, today the term 'open source' designates a set of values: 'what we call *the open source way*' (OpenSource.com, n.d.).

Open source software is software whose source code is available for modification or enhancement by anyone. "Source code" is the part of software that most computer users don't ever see; it's the code computer programmers can manipulate to change how a piece of software—a "program" or "application"—works (OpenSource.com, n.d.).

There is a difference between proprietary software and open source software. Proprietary software has source code that cannot be modified by anyone but the person, team, or organization who created it and maintains exclusive control over it. This kind of software is "closed source" software, because its source code is the property of its original authors, who are the only ones legally allowed to copy or

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modify it. Microsoft Word and Adobe Photoshop are examples of proprietary

software. In order to use proprietary software, computer users must agree (usually

by signing a license displayed the first time they run this software) that they will

not do anything with the software that the software's authors have not expressly

permitted. Open source software is different. Its authors make its source code

available to others who would like to view that code, copy it, learn from it, alter it,

or share it. LibreOffice and the GNU Image Manipulation Program are examples of

open source software (OpenSource.com, n.d.).

 So, as the Open Source Initiative (n.d.) explains, "open source doesn't just mean

access to the source code" It means that the source code can be modified and made

available for all (OpenSource.com, n.d.; Biju, Jasimudeen, & Vimal Kumar, n.d.). There

is significant growth in the number of libraries using OS LMS. According to the statistics

given by Breeding (2015a), the number of respondents to the 2014 survey places Koha

among the top five in terms of user numbers (Appendix 1). All the first four are

proprietary software, with Koha having 198 against Symphony (361), Sierra (288),

Atriuum (222), and Millennium (216). The report provides evaluative ratings submitted

by individuals representing over 3,000 libraries from 80 countries describing experiences

with 154 different automation products, including both proprietary and open source

systems.

 The survey included two questions about interest in open source ILS, a numerical

rating that asks "How likely is it that this library would consider implementing an open

source ILS?" and a fill-in text field for indicating products under consideration

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(Breeding, 2015a). The results showed that smaller academic libraries (with collection

size less than 200,000 volumes) preferred KOHA to other library systems – ALEPH 500,

Sierra, WorldShare Management Services, Millennium, Horizon, Symphony, and

Voyager - which are all proprietary. The criteria used were in terms of user satisfaction,

functionality, effectiveness for print, effectiveness for electronic resources, and customer

satisfaction. Other OS ILS mentioned in the survey report included OPALS developed

and supported by Media Flex, Inc. (https://librarytechnology.org/vendors/mediaflex/),

Evergreen developed by Georgia Public Library, and Kuali OLE (Open Library

Environment) developed by Kuali Foundation of the USA. A Google search on 'open

source library management system' gave two additional OS systems: NewGenLib and

Micro Library System.

Evergreen ILS (2015) states that the Evergreen Project was initiated by the Georgia

Public Library System in 2006 to serve their need for a scalable catalogue shared by (as of now)

more than 275 public libraries in the state of Georgia. Evergreen has been adopted by a number

of libraries and consortia in the US and Canada and also by libraries outside North America. The

Evergreen community is also marked by a high degree of participation by the librarians who use

the software and contribute documentation, bug reports, and organizational energy. As such,

Evergreen is very much about both the developers and the users (Evergreen ILS, 2015).

NGL Open Source (n.d.) confirms that NewGenLib has all functional modules of library

management completely implemented, with the following modules: technical processing (or

cataloguing), circulation, acquisitions, serials management, MIS reports, web online public

access catalogue (OPAC), administration. NewGenLib is reported as the first open source ILS

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from India, a developing country and is funded from a partnership of three organisations.

Designed with all kinds of libraries in mind it has all the modules of a modern ILS. In their

opinion (Interleaf Technology, 2015), Koha is the world's first free and open source library

system which is a web-based, fully featured library management system. It was originally

developed in 2000 by Katipo for the Horowhenua Library Trust in New Zealand but now has

been installed in many languages and on every continent. The Koha Community (of libraries'

volunteers, and support companies) now develops Koha collectively and provides two major

releases a year and maintenance releases every month. In Ireland alone there are 90 libraries of

all types using Koha, with most sites hosted in Data Centres (Interleaf Technology, 2015).

Focusing on academic libraries, Staffordshire University in the UK and Bowen

University in Nigeria are early adopters of Koha (PTFS Europe, 2010; Otunla and Akanmu-

Adeyemo, 2010). The University of Staffordshire replaced its SirsiDynix Horizon solution with

Koha and PTFS Europe was contracted to provide the data migration, implementation, support

and training on a hosted version of the Koha system. Dave Parkes, Associate Director Learning,

Technology and Information Services remarked:

> Koha and the services provided by PTFS Europe offers our students an excellent next
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> generation learning tool, an enhanced solution for locating information from whatever
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> source with all the benefits of new social media technology and integration with
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> existing systems. The solution provides an excellent support infrastructure, full
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> standards compliance and importantly great value for money (PTFS Europe, 2010).

Other libraries that have implemented Koha include Adeyemi College of Education,

Ondo, Babcock University, Redeemer University, University of Jos (all in Nigeria), Paine

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College in Georgia, USA, and Stockholm University. All these case studies implemented Koha

using a third party vendor. Dennison (2011, p 8) summarised their experience thus: 'choosing a

hosted open source ILS was the right choice for the Library. Using a hosting company is an

excellent way … to obtain specific ILS expertise at a reasonable cost.' After enumerating the

negatives about Koha, Mace (2015) concedes that with a strong foundation that allows several

different workflows that fit different types of libraries, Koha has the potential to develop further.

He stated the advantages of implementing Koha as "increased control of a business-critical

system, increased development and customisation possibilities, vendor independence, lower

costs, and cooperation opportunities" (p. 5).

Although economic benefits were not the main reason why the University of Stockholm

Library decided to implement Koha, Mace (2015) confirmed that open source solutions are

generally financially more viable than the use of proprietary systems. This is corroborated by

Otunla (2010), and Akpokodje and Akpokodje (2015). Mace was quick to state that the system

itself is free, but there are development and hosting costs to consider. Adding that:

> According to the literature, open source library systems take up more of staff time
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> in the form of development and adaptations. Koha is not a perfect system. It has
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> an old code base written in what is becoming a languishing programming
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> language, and is built primarily around the equally old MARC format. It is
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> however a good alternative to its commercial competitors (Mace 2015, p. 4).

Further on the advantages of Koha, Yang, Hofmann and Weeks (2009, as cited by

Omeluzor et al., 2012) asserted that Koha has a state of the art web interface, enriched

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content, faceted navigation, keyword searching, user contributions and Rich Site

Summary (RSS) feeds. The developers have always improved its features through a

superb feedback mechanism.

The Regent Account of and Experience with Koha

Initial contacts and enquiries, including reading the literature, word of mouth, and past

associations with the Koha user community strengthened the reasons for the choice of Koha. The

University Librarian has been associated with libraries that have adopted Koha, for example the

Library at IDS/University of Sussex, and the University of Staffordshire Library; and had on site

demonstration by PTFS Europe which provides Koha solutions to client libraries for a fee. The

sum of these developments constituted that interest in open source library management systems

began to rise.

In terms of cost and human resource needs, Ogbenege and Adetimirin (2013) underscore

the fact that the selection of library software is a time consuming work that involves a long term

commitment of financial and human resources. They added that the decision should be based on

needs assessment, review of the literature, evaluation and comparison of existing software

packages. They concur with Mulla and Chandrashekara (2011, as cited in Ogbenege &

Adetimirin, 2013) on the criteria for software selection: evaluation of each module,

experimenting with demonstrations of the software, experiences of other librarians, vendor

approaches and cost effectiveness. In their paper, Omeluzor et al. (2012) reported that several

ILS were examined and a committee was set up to visit some institutions that already had their

software running to ascertain the reliability of Koha as the best option. The action was in

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conformity with Breeding (2015b) and Breeding (2012, as cited in Omeluzor et al., 2012), that a thorough process of evaluating an ILS today would not be complete without also weighing the open source ILS products against their proprietary counterparts. They advised libraries to have a solid grasp of all available options when making decisions about what software to use for automating their operations.

The choice of an open source solution was made on the backdrop of cutting down the cost of automation and relying on internal staff expertise. The decision was guided by library management experience from the literature and from case studies. Having settled on Koha, we needed to decide on using a third party for installation, training and support or go 'independent'. Koha support is available from companies such as PTFS Europe, Equinox Software, ByWater Solutions, or LibLime. Unfortunately, all four are foreign companies and there was no local company noted for Koha implementation. A search on the local market and a tender for project implementation, training and support was quoted in the region of GHS 45,000 (just under US$12,000 at GHS3.8 to the US$). At that price, Regent needed to host the system. An overseas vendor quoted £7,000 for installation, configuration and training, plus just under £3,000 in annual hosting fee and support.

Part of the project plan was for the IT Department at Regent to install a test version for trial, giving indications of technical support should we opt for Koha. A project proposal to adopt Koha was therefore presented to university management in February 2015. The outstanding question was the route to implementation. As stated by Bimbe (2012):

- We could install, configure and customise it ourselves (a totally in-house solution)

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- We could ask a third party to install, configure, and customize it, while we host the server (partial)

- We could also use a third party company to install, manage, train staff and host it for us (full outsource).

What tipped the balance towards a fully in-house solution was the Library Committee's recommendation that preferred this option for two reasons: it was seen to be cheaper and also innovative because it would rely on internal staff expertise. The Committee further recommended that staff should be rewarded to encourage similar ventures in the future.

Following the Library Committee's recommendation in February 2015, a four-member Project team started work immediately. Initial meetings were held to outline what needed to be done. Library management explained to the Project team what the intended outcomes of the project should be, the outline of which looked like this: Installation- Local IT Team of one lecturer and two IS students; Configuration- Local IT Team of one lecturer and two IS students; Customisation- Library consultant and Regent Library management; 'Data conversion'- first time automation, staff training, data entry work sheets, etc. by library management. The catalogue of events leading to implementation shows that it took about 10 months from the date a decision was reached in September 2014 to set up, install, configure and get the system up and running. Below is the chronology of events that led to the final implementation.

- September 2014- Search for local/overseas suppliers with skills and experience to support the project and research into Koha

- November 2014- working visits to three local university libraries, two public and one private

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- February 2015- Koha project brief submitted to university management for approval

- February 2015- Library Committee recommendation for an in-house solution

- March 2015- project team of a lecturer and two IS final year students appointed

- April 2015- Koha installed for configuration and customisation

- April/May 2015- customisation by library management

- June 2015- final configuration and customisation by library consultant; staff training and start of data entry, further configuration and customisation of OPAC by project team

- July 2015- Koha server installed for in-house hosting of Koha

Challenges faced as a result of doing it in-house included staff anxiety about coping with the amount of work, learning of new skills, and added responsibilities. Users would have raised expectations that should be met by library staff. Also, there were concerns about staffing, project duration, the provision of essential supplies such as a server, and future support and the sustainability of the Project. These challenges were noted and steps taken to mitigate their effects. In a very proactive approach, library management got approval to recruit one assistant librarian and one library assistant to start work at the beginning of the 2015/16 academic year. This raised the number of library staff to seven, with the aim of pushing data entry for the more than twenty thousand volumes of the print collection. Two other challenges came in the form of equipment, for example server and supplies, and system upgrade and maintenance. The Regent IT Department accepted full responsibility for the server upgrade, maintenance and all other internal IT support, while the Project team looked after further customisation, training and systems upgrade. The use of student volunteers to import data into our catalogue had its own challenges. They needed to be trained thoroughly and supervised effectively to ensure the

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integrity of data and records. Initially we instituted weekly briefing sessions to point out their mistakes and answer their questions. We had to do lots of editing until they settled down.

There are benefits in going 'independent', the route chosen by Regent Library to install, configure, and customise Koha for its operations. Not going for a service provider is termed 'independent' in the literature (Breeding, 2015a) and this route appears to be popular and is followed if there is a reliable internal IT technical support and resources. Out of the survey by Breeding (2015a), the three leading Koha implementation routes were ByWater Solutions (119), Independent (53), and LibLime (23). We wished to cut costs, rely on the skills of our internal staff, and create opportunities to develop our competencies. We could also have taken a partial solution route by asking a service provider to host our server, but the conviction for a wholly internal solution was so strong.

The Project offered opportunities for staff training and the development of local expertise in implementing the library management system. Koha ILS is known to be implemented by a handful of academic institutions in Ghana. The case study of Regent is therefore among the very few in the country. The Project team together with library management has built a core of expertise in Koha implementation. Project management, data migration, system configuration, and customisation as well as functional and administrative training are some of the professional implementation services provided by these third parties. Like LibLime, all other service providers facilitate Koha open source solutions by providing consulting, development, implementation, and support/hosting for libraries of all types and sizes. The case for Regent is unique as we did not rely on any third party. On the part of the Project team, expertise in the installation and configuration of Koha built their confidence and competency. The team also

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demonstrated their proficiency in using Linux. Students on the Project team honed their

information system skills as they worked with their lecturer and library management to

customise and implement the system. Other intangible benefits include bringing library and

software experts together to work on the project. Each appreciated the unique strengths of the

team members, and the cooperation required to run the project successfully. Besides, the image

of the library improved as well as staff self confidence in handling an automation project.

Identified among the tangible benefits are a fully automated library system and cost

savings in annual support, maintenance, and server hosting. An automated library system would

aid daily library transactions such as cataloguing, acquisitions, and stock circulation and provide

management information for future planning and service improvements. Project management

skills were gained by the Project team and library management. The joint staff of the Project

team and library management could offer consultancy and training and share their experience in

the academic library sector.

Zico (2009) stated that he was able to customize the Koha installation. Customization

included user interface, policy making, system preferences, budgeting, item type administration

and book supplier organization. Continuous customisation and enhancements have been on-

going mainly by the two students. Some of the enhancements include: a customised template for

cataloguing, record import using Z39.50 library protocol, student data bulk import into Koha,

fine tuning the OPAC search interface- including links to other university resources (ongoing),

search interface for past examination papers (ongoing), and computerizing issue/return of tags

for student bags (ongoing). They are also working on a User manual- using the OPAC and

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FAQs, uploading staff and student photos, online chat system (Ask a Librarian), and a customised report for generating staff cataloguing inputs that can be searched by date.

It is appropriate to reflect on what did not work well as well as what could have been done differently. The use of student volunteers appeared a very viable alternative to fast tracking the Project, however it created two problems. One, they were a transient group so training given to them got wasted when they completed their studies. Secondly, they made a lot of errors despite the close supervision and training given. Therefore most of the records needed editing, thus slowing down the Project. It would have been better to recruit and train a dedicated staff on a fixed term contract. Like all open source systems, the Project required a lot of staff time, with the three senior library staff spending close to 50% of their time during the implementation phase (Mace, 2015). Some work could have been delegated to trained library assistants to reduce the burden.

Conclusion and Recommendations

Library management settled on Koha because of past experiences of having looked at and explored its features and also for understandable financial reasons. The most obvious choice was for an open source system with its main advantage of no tie-ins to a commercial developer or agent and a low initial upfront cost. In terms of upfront cost, the University made significant savings by not using the services of a third party. University management recognised this and made a cash award of GHS 10,000 (about US $2,500) to the Project team. Again, compared to the case studies mentioned, Regent Ghana Library stands out from the rest of them because of the wholly in-house solution.

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In a developing country like Ghana, managing a library automation project could be quite a challenge. Challenges like a dearth of local library vendors knowledgeable in providing automation solutions, identifiable local expertise in library automation, and the novelty of Koha library system are enough barriers. However, with a deep commitment and buy-in from university management, there is always a good reason to persevere. The choice made after a careful study of the options turned into a great opportunity for service improvement and staff development. The experiences and competencies built and developed add to the skill set within the University in particular, and the academic library sector in general. Libraries thinking of Koha as a library management system are welcome to share in the Regent experience. There is a dearth of publications sharing the Koha experiences in Ghana, compared to Nigeria which has over 10 papers published on the topic. This paper appears to be the first case study reported on Ghana. Apart from adding to the studies on Koha, it documents the specific case on Ghana, therefore existing or potential Koha users in Ghana can better relate to the content. The formation of a national user group consisting of libraries in Ghana that have implemented, or are in the process of implementing Koha would be a great asset to the library community in the country.

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Acknowledgements

Note

Session Initiation Protocol is a signalling protocol used to create, manage and terminate sessions

in an internet protocol-based network.

Appendix 1

Breeding (2015a) attracted 20 or more responses from libraries using:

- Symphony (361)

- Sierra (288)

- Atriuum (222)

- Millennium (216)

- Polaris (170),

- Voyager (149)

- ALEPH 500 (140)

- OPALS (131)

- Horizon (128)

- Destiny (122)

- Koha -- ByWater Solutions (119)

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- Library.Solution (93)

- Apollo (74)

- WorldShare Management Services (74)

- Evergreen -- Equinox Software (73)

- AGent VERSO (58)

- Koha -- Independent (53)

- Alma (46)

- EOS.Web (46)

- Spydus (40)

- Concourse (33)

- Absys.Net (27)

- Koha -- LibLime (26)

- Virtua (25)

- Alexandria (23)

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