## Cases Study: Staffordshire University’s KOHA journey: Taking an integrated approach to supporting an open source library management system Vicki McGarvey Learning and Information Services Manager (Collection Management, Research and Digital Resources) Staffordshire University Library

### Abstract

In recent years Universities have had to make challenging decisions with respect to the choice of their library management system, and the best support framework required. With demands on return on investment and systematic organisational changes, leading in some circumstance to leaner approaches to library workflows, some universities are deciding to move away from onsite hosted proprietary LMSs, to Open Source (OS) solutions. This article provides an overview of Staffordshire University’s development of an integrated support framework for KOHA, an offsite hosted open source library management system, which the University implemented in 2011. Beginning with the history of the development of KOHA it will go on to describe the cultural and organisational changes Staffordshire underwent, post implementation, to provide an integrative support model, which includes its vendor, the open source community, staff at the University, and the evolving role of the systems librarian.

### Introduction

Staffordshire University changed its Library Management System (LMS) in 2011 from SirsiDynix Horizon to KOHA. This has been both a technical and cultural change for the library. The University decided to opt to move from onsite hosting to offsite, with support provided by a vendor PTFS-Europe. KOHA is also an open source LMS, unlike Horizon, which means that both technical and feature developments, as well as the quality assurance, are driven by the KOHA open source community, then implemented by PTFS. KOHA has a web interface and is less modular than some proprietary LMS’s with more integration between, acquisitions, cataloguing and circulation workflows. 1 The following provides an overview of the integrated support model that has evolved during KOHA’s 6-year tenure at Staffordshire, which is comprised of, the Library, the University’s IT department, PTFS, and the KOHA community.

### Open source trend and the development of KOHA

It has been argued2 3 4 that the trend toward the adoption of open source library management systems would be slow because libraries cannot afford the specialist support open source software (OSS) requires, and with no commercial incentive to move away from proprietary software the market would remain niche. However, with the changes that have occurred within Higher Education over the last 10 years, the raising of tuition fees, the lifting of the cap on recruitment and the reduction of governmental spending, many universities have had to contemplate the delivery and support of many of their large business systems as they face challenging economic times. Over the last 5 years we have seen the OSS market gradually moving from the predicted niche market to its integration within universities’ technical service infrastructure. From repositories such as ePrints to OSS web content platforms such as Wordpress and Drupal, OSS solutions are increasingly seen as a viable alternative to proprietary systems, especially if systems are vendor supported and hosted off campus. For example, at Staffordshire University, as well as KOHA, it has Wordpress and the ePrints repository as part of its open source systems profile.

According to Breeding, the cost and innovative development of open source products, together with matured functionality that is comparable to proprietary products, has seen its continued integration into mainstream service delivery.5 In 2017 Ebsco launched FOLIO an open source modular library services platform where customers can choose individual “specialised” apps or all apps to form a “cohesive platform”. This approach, Breeding claims, opens-up the development of library services to a wider community, providing opportunities for the implementation of bespoke services flexible enough to meet an organisation’s needs, which characterises the open source production model. Breeding argues that this is a bold move for Ebsco, contributing “energy and resources to a product it does not own, influencing but not controlling.” The open source business model, Breeding states, is based on fees for services not software, as evidenced by the companies that provide these products, like PTFS KOHA’s service provider.6

To a certain extent, the development of KOHA was economically driven. KOHA was developed within the public library sector within New Zealand, by Horowhenua Library Trust in 2000, which was dissatisfied with the library management system options available because they were either expensive or did not meet their needs. The Trust also wanted a web-based system, and worked with Katipo Communications, to develop the library management system. It was recommended that the software be released under a GNU General Public Licence, a free software license, which permits users to run, share and modify the software, to ensure sustainability and to encourage other organisations to adopt7 . The outcome was KOHA, the name comes from a Maori term for gift or donation, a web-based system with a SQL database backend. Cataloguing data is stored in MARC records and accessibly via Z39.50 or Search/Retrievable URL. It has a configurable interface, it includes all the expected features of a LMS, acquisitions, cataloguing, patron management, serials management and reporting1 . KOHA is now used worldwide in all library sectors including public libraries which have chosen KOHA as a solution in response to financial constraints from local austerity measures.

### KOHA community

KOHA, is now supported by an active community of developers, vendors and librarians7 . The involvement of vendors has enabled library open source ambitions to become a reality, taking the open source library management system out of the exclusive LMS market into the mainstream. Staffordshire University’s vendor PTFS became involved in the delivery of KOHA in 2010, after acquiring Liblime one of the earliest vendors8 . PTFS were found in 2007 to implement and support Koha and Evergreen OS LMS’s. As well as hosting, PTFS provides implementation services, including installation, configuration, data conversion, software development and training and support9 . PTFS customers are international, representative of public, higher education, and specialist libraries. Staffordshire was one of the first Universities to adopt KOHA for the management of its entire library collections, where other organisations have chosen to implement in departments. Higher Education customers remain in the minority, but Staffordshire is in good company with, Hertfordshire, the University of the Arts and more recently Loughborough implementing KOHA.

### Development of KOHA support framework at Staffordshire

It should be acknowledged that moving to a supported open source integrated library management system from a modular onsite hosted proprietary system, as experienced at Staffordshire, requires both a cultural and technological shift. The move can be both challenging and disruptive for those that are happy with existing workflows, some of which may not easily map to a new system. Furthermore, with an offsite hosted solution the vendor becomes an integrated part of the support framework, contributing to some of the activities that a systems librarian would traditionally provide.

Before Staffordshire University decided to move to KOHA in 2011 change had already begun with respect to how the library management system was being supported. There had been the reorganisation and streamlining of cataloguing and acquisitions functions in response to changes in the information discovery landscape. The library had moved to ordering shelf ready books, shortening Dewey class numbers to enable easier location for users, and downloading records from the British library. Day-to-day acquisition, cataloguing, and patron administration activities were now being carried out by library assistants, based in the Customer Services and Resources Management team. In 2011, the library was part of Information Services, and the management of the lifecycle, discovery and circulation of items, was represented by an integrative cross-team approach. The Information Services’ Resources Manager, managed the IT licences and the team that was responsible for purchasing, managing acquisitions and cataloguing. The Library’s Site Operations Manager, managed patron administration and circulation. Staffordshire had, already, changed the job role title of Systems Librarian to Information Landscape Librarian as it was thought that this more adequately described the varied responsibilities of this role which had gone beyond the support of the LMS to supporting eresouce discovery, access and authentication, as well as managing Open Access publishing.

Payne10 has argued that with open source an organisation does not need the technical knowledge as the hoster will do all this for you. Poulter2 citing Morgan 3 has also claimed that librarians are not programmers and there is no reason why they should develop skills in this area. However, it cannot be underestimated the role of the Information Landscape Librarian, in the LMS configuration and translating Staffordshire’s workflow needs to PTFS during the implementation of KOHA. Like a systems librarian, the Information Landscape Librarian also had to develop, an expert knowledge of all the modules within KOHA and disseminate this knowledge to colleagues across the team, as part of the implementation However, it can be argued that the cross-service shared responsibility for the library management system, which had already been established previous to implementation of KOHA, aligned well with KOHA’s set-up and enabled a smoother implementation and integration into the library service.

Open Source Systems can also facilitate a move away from a siloed approach to the day-to-day support that proprietary systems can enforce. This movement from a siloed approach to support had already begun to develop pre-KOHA, and after its implementation, Staffordshire extended its collaborative model by taking advantage of the expertise available from within the Information Services IT team, PTFS and the open source community. Initially, the core technical support was shared between, PTFS and the Information Landscape Librarian. The Information Landscape Librarian played a central role in troubleshooting and articulating technical issues to PTFS, as well as creating and writing reports. Eventually Staffordshire’s IT Business Applications team, became part of the support framework, overseeing upgrades, and reporting issues to PTFS out of hours. This was after persuading the University to raise the profile of the LMS so that it had parity of importance with other business-critical systems, such as the student information system, virtual learning environment and financial and HR systems. Encouraging this change was quite a challenge but was achieved by articulating how the availability of LMS impacts on the student experience, particularly with respect to accessing services 24/7.

Some of Staffordshire’s experiences similarly align with SOAS’s implementation of its open source LMS Kuali OLE. Barron states this implementation required a collaborative approach with IT and Information Services pooling together their technical and library skills. SOAS had found that their previous system Millennium was driving their processes and procedures and it was becoming challenging to make changes according to their University’s needs. As observed at Staffordshire, Barron states an open source system requires the involvement of end users in its development, so that their requirements can be met, it is “the shape of things to come”. The change was a challenge for some staff at SOAS, who found it difficult to adjust to a new approach to working, however, as evidenced at Staffordshire, user engagement, was an important aspect of SOAS’s implementation.11

### Relationship with the open source vendor

The institutional relationship with the open source vendor is a significant aspect of support for an OS library management system. Singh’s12 research on OS library management systems found that many librarians were happy with the support that they received from their vendor. However, the relationship with OS vendor, was found to be slightly different to that of a proprietary vendor. This is possibly because the organisations implementing are smaller and the inherent collaborative approach to providing support for open source solutions which relies on the OS community. It could be argued that the challenge is maintaining the close relationship with the vendor once the library management system has been implemented. For example, post implementation, at Staffordshire, it took some time to agree the communication protocol that suited the University and PTFS. Eventually it was decided that Staffordshire and PTFS would have monthly conference calls to track the outstanding issues post-implementation, to investigate feature requests and prepare for upgrades. At first meetings were attended by the Information Landscape Librarian, the Site Librarian and the Resources Manager. However, after Staffordshire established the criticality of the LMS a representative from the IT’s Business Applications team was included within the meeting. Google docs was used to record meeting actions, and PTFS provided the software for the conference calls, thus allowing desktop sharing if required. In addition to this, expectations were placed upon PTFS with respect to keeping Staffordshire up-to-date with issue resolutions and solutions, for unplanned problems, an area of importance identified in Singh’s13 research . Meetings became less frequent as KOHA stabilised, issues were resolved, and the PTFS-Europe user community developed.

### Evolving day-to-day support for KOHA – a collaborative approach

The Library and Information Technology Services split at the end of 2016, at Staffordshire, with IT services becoming Digital Services, also the job title of Information Landscape Librarian changed to Research and Digital Resources Librarian. However, despite the restructure the collaborative approach that had been coordinated by the Information Landscape Librarian continued, with Digital Services, still managing upgrades, network issues and out of hours support. The ongoing day-to-day technical support is provided by PTFS, calls are tracked and logged using Github, a reporting repository used by the OS community. However as with other proprietary systems there are still resource implications with respect to knowledge and ongoing support within the organisation14 . At Staffordshire, this not only includes the administrative support, the configuration and reporting is provided now by the newly titled Research and Digital Resources Librarian, with additional support from Customer Services with circulation and patron management. Support for KOHA now sits within both the Library and Digital Services’ service levels, especially now the University has acknowledged that KOHA is a business-critical system. The Library has also written scripts which has increased the amount of first fixes provided by the Digital Services helpdesk. An important aspect of the support framework is the KOHA OS community, which collaboratively creates documentation, quality assures solutions for feature requests, and solutions for technical issues. Staffordshire support also interacts with the OS Community to identify solutions to technical issues and feature enhancements. This collaborative community user “driven approach”, Dimant 14 argues, is one of the advantages of an OS LMS.

So are there any disadvantages to adopting an open source library management system. According to Singh 13 referring to Cervone15 one of the main disadvantages of OS LMS is poor usability. Specifically, this refers to less user-friendly interfaces, lack of functionality and issues around security and general reliability. This is possibly why some institutions will not take the leap. Staffordshire has received very few criticisms from patron users about the interface, most of the criticisms have related to the relevancy on the search results, which PTFS has continued to work with the University on, and some technical issues in the cataloguing module relating to authority files. Upgrade release notes can be complex, so some time and resources must be allocated to translate the implications for processes and workflows to colleagues, and to understand the impact on the system. However, the positive aspect of this activity is that those supporting and using the LMS develop a good knowledge of the upgrade features. PTFS, do also provide extensive support documentation which can be used for training and creating bespoke support materials. Generally, after the outstanding technical issues were addressed post-implementation, KOHA has been an extremely stable system, and changes such as setting up new suppliers is relatively straight forward. One criticism would be that sometimes it is difficult obtaining the causal details of technical issues, but this can also be a challenge with proprietary systems.

## Lessons Learned

With the implementation of any new system it is important to involve, all end-users of the system regardless of level of activity. This will require those that are leading the project to be candid with respect to those processes which can be mapped and those that will need to be changed. This can be a challenge as some colleagues will adapt to change better than others. Explaining the concept of open source and how open source systems are differently supported to proprietary systems can assist with this. Library colleagues and to some extent IT colleagues may be unfamiliar with a collaborative support framework to supporting a business system that is inclusive of the vendor, and a development community, and some time may need to be given to culturally adapt. Post-implementation efficiencies in support and triaging via the helpdesk service can be enabled by clearly identifying roles and responsibilities, particularly with respect to escalating technical issues. Open source systems because of their support models, and to certain extent their cost in comparison to proprietary systems, can push their support further down the list of University system priorities, so establishing the library management system as a business-critical system helps to raise both its profile and importance, especially within IT teams providing out of hours support. The implementation of an open source system can change the role of the traditional systems librarian or in the case of Staffordshire the Information Landscape Librarian, which is now the Research and Digital Resources Librarian, especially with respect to administrative and technical support if the LMS is hosted offsite, as these activities will be shared with the vendor. However, Staffordshire still has to develop and run its own reports, make changes to the interface, troubleshoot and articulate upgrades, and having a nominated person to oversee the management of these activities, who has overall knowledge of the LMS, provides the necessary reassuring coherence for end-users.

### Conclusion

For Staffordshire the implementation of KOHA has been a positive experience, although it cannot be underestimated that the movement to an open source solution, that is hosted offsite comes with both process and cultural challenges. As with the implementation of any new systems not all the processes and functionality could be completely mapped to KOHA, and some adjustments needed to be made, which was initially challenging for some colleagues but PTFS worked closely with Staffordshire to create necessary workarounds. This collaborative integrated approach between Staffordshire and PTFS, which has continued, has helped to develop the confidence of those supporting the system daily. However, there are some elements of the support framework, post implementation, which could be distinctive to an externally hosted OS LMS, that organisationally requires some cultural and systematic changes. For example, although it is important to have an individual with responsibility for the LMS administrative support, which some Universities call a systems librarian, the technical and problem-solving support is shared with the vendor in this case PTFS, and OS user community, and these become an integrated part of the support framework. New features must be quality assured by the OS community before implementation, and despite the OS community providing support documentation for the LMS and upgrades, unlike proprietary systems, this often requires some finessing by the organisation delivering the system to make it usable for both colleagues and patrons using the system. It should, however, be noted that it is quite challenging finding research on the support for OS systems within universities, and to a certain extent there are limited evidence-based studies of the support of library management systems in general, as a considerable amount of research focuses on the implementation process. It is apparent that further research needs to be undertaken to evaluate the support structures for Open Source library management systems, even in the US where OS LMS solutions have more widely infiltrated the market.

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