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DOING THINGS DIFFERENTLY IN THE CLOUD: STREAMLINING LIBRARY WORKFLOWS TO MAXIMIZE EFFICIENCY

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ABSTRACT

Libraries share many common challenges including ever more complex collections, systems, and workflows, as well as increased user demand. To help manage these challenges, today's cloud-based library management services are offering workflows that save library staff time and discovery solutions that meet users' needs. Libraries using these services are seeing drastic reductions in the time it takes to perform routine tasks because of the integration between libraries, applications, partners, and data.

As a result of doing things differently, libraries save staff time and money while streamlining workflows and improving efficiency. In short, cloud-based library management services like OCLC's WorldShare Management Services allow you to manage your library's back office tasks differently—from Acquisitions to Cataloging to Collection Development. This paper gives a synopsis of the efforts of Southeastern University's Steelman Library to streamline technical services workflows after going live on WorldShare Management Services (WMS) in July 2013. The impact that WMS has had on the library workflows at Clearwater Christian College will also be discussed briefly.

A CHANGING CLIMATE

The library realm has experienced great change in the last several decades due to an ever-evolving technological climate. As a result, libraries share many common challenges including ever more complex collections, systems, and workflows, as well as increased user demand. Academic libraries in particular have greatly changed the methods by which they offer services and resources to their patrons. This transformation goes hand-in-hand with the changes that have been taking place in higher education. The traditional face-to-face classroom experience now co-exists with blended and online education and extension sites. Patrons can be anywhere, at any time, and they expect to be able to access the resources and information they need in the same fashion.

As these changes have occurred, libraries near and far have experienced (and continue to experience) budget reductions, often resulting in the reduction of staff. Though our budgets may be shrinking, the demand for more and more resources, especially electronic and digital resources, seems to be ever increasing. Furthermore, libraries are feeling the pressure to reimagine spaces and services in order to remain relevant in a climate that is constantly in a state of

flux. As a result, many libraries are exploring ways in which they might address these changing needs, but doing so with less money and staff.

One area in which libraries have been making changes is automation. Marshall Breeding describes library automation as "moving forward through an ongoing series of cycles, consistent with the epochs defined by the broader realm of information technology" (2012b, p. 23). I would take that illustration a step further and say that libraries in general are moving through these cycles. As user needs change, the goals of libraries must change to meet the demand.

LIBRARIES IN THE CLOUD

One of the ways libraries have endeavored to reduce costs and investment of staff time is to explore cloud-based systems. Cloud computing, a concept that didn't really begin to take shape until the late 1990s, now offers libraries a way to do this. A primary example is the adoption of the cloud-based integrated library system (ILS). Outside of the cloud, the traditional ILS relies on a local server that must be maintained. The need for necessary hardware, software, and IT expertise to maintain such an infrastructure is very costly. The traditional ILS also requires that software be installed and continually updated on a number of individual computers. This requires an additional investment of staff time.

Another downside of the traditional ILS is that it is not designed to keep up with the changing demands of our profession. It has been noted that the traditional ILS "does not have sufficient capacity" to meet these changing needs, "such as managing a wide variety of licensed electronic resources" (Fu and Fitzgerald, 2013, p. 47). In a climate where electronic and digital resources are quickly outpacing print materials, this is a problem.

In contrast, the *cloud-based* ILS is more flexible and mobile. It is accessible anywhere and at any time because it can be accessed via the Internet, rather than locally installed software. This makes it easier to add new services and resources while providing ease-of-access to users. This new model has greatly changed the way that library staff function, systems staff in particular. When an ILS is updated, it happens universally and simultaneously; individual software updates are no longer necessary. The cloud-based ILS can be accessed from different types of devices, including desktop computers, laptops, tablets, and smartphones. As cloud-based systems are becoming more common, a new type of cloud-based ILS has been emerging, the *next-generation ILS* also referred to as the *second generation ILS*.

THE NEXT-GENERATION INTEGRATED LIBRARY SYSTEM

What sets the next-generation ILS apart from traditional systems is that it is a unified system in a cloud-based environment. Not only is the next-generation ILS fully-integrated, it is often designed following Service-Oriented Architecture (SOA). By definition, "a service-oriented architecture (SOA) is an architecture for building business applications as a set of loosely coupled distributed components linked together to deliver a well-defined level of service" (Yongming and Dawes, 2012, p. 79). This is as opposed to the client-server computing model that is typical of the traditional ILS (Fu and Fitzgerald, 2013, p. 50).

In July 2013, Southeastern University's Steelman Library went live on OCLC's WorldShare Management Services (WMS) after migrating from the cloud-based open source ILS, Koha, hosted by LibLime. WorldShare Management Services is a next-generation ILS that includes the typical circulation and acquisitions functions expected of an ILS, but also integrates resource sharing (interlibrary loan), analytics, WorldShare Metadata collection management, OpenURL resolution, an A to Z journal list, and a discover layer in one unified system. For its OPAC, WMS uses WorldCat Local, though a new discovery interface is currently under development and is available in beta. Such integration removes the need for the investment in additional ILS add-ons such as SFX and MetaLib. Additionally, OCLC offers License Manager for an additional cost, though Steelman Library does not currently use this feature.

Before taking the position of Technical Services Librarian at Steelman, I had just completed the migration from Koha to WMS as director of Easter Library at Clearwater Christian College. At the time, the staff at Easter Library consisted of two full-time faculty librarians and one part-time paraprofessional, with the size of the College being somewhere around 420 FTE. Upon going live on WMS in May 2014, I found that we were able to greatly increase our efficiency in the area of cataloging which was a significant advantage for such a small staff.

At Steelman Library, we have six full-time faculty librarians, four full-time and two part-time paraprofessionals. With a university FTE around 3,200, the library supports 69 academic programs that include traditional, online, and extension site students. Southeastern University currently has 20 extension sites located around the United States. While Steelman is the larger of the two, both libraries are relatively small in comparison to the surrounding state university libraries and public library systems.

While different in size, both libraries dealt with the same challenges that are common for a system migration: change management, extraction and migration of data, configuring and learning to use a new system, and addressing the need to update workflows. For the purpose of this paper, I will be focusing on the impact that WMS has had on technical services workflows at Steelman Library.

STREAMLINING WORKFLOWS AT STEELMAN LIBRARY

While the traditional ILS is designed to facilitate traditional library workflows, the next-generation ILS allows libraries to take a fresh look at their existing workflows and tailor them with relative ease. One of the significant differences is that various procedures are far less compartmentalized than is typical in traditional systems. This can offer both advantages and disadvantages.

As the new Technical Services Librarian at Steelman Library, one of the first things I focused on is the analysis of existing technical services workflows. While workflow analysis allows one to identify problems that might not be noticed otherwise, it also provides the opportunity to pinpoint tasks that don't need to be completed anymore as well as gaps in communication or staff training (Anderson, 2014, p. 23). Perhaps most greatly affected from my analysis was our cataloging workflow. It is important to note that as Technical Services Librarian, I am the only cataloger. I also serve as the liaison librarian to Southeastern's College of Behavioral & Social Sciences and spend part of my time doing reference and instruction. Because of how WMS has affected our technical services workflows, my hybrid position in both technical and public services is a new one.

When I began my position, I sat down with several different staff members and librarians to discuss various technical services workflows including: acquisitions and cataloging of print and electronic materials, serials acquisitions and check-in, and our newest endeavor, Patron Driven Acquisitions (PDA). We discussed what was working and what wasn't and what could be pared down in order to free up time for higher-level projects, keeping in mind that our overall goal is to grow the library and not just sustain it. We also examined problematic areas within various workflows: tasks that need to be completed by different people simultaneously, issues with communication, and so on. What I began to discover was that different staff were using WMS as if it were a traditional ILS. Many features and functions were either being under-utilized, or not used at all.

One of the questions I kept asking was, if you are no longer using a traditional ILS, why remain tied to the traditional workflows? This was part of the post-migration change management process with some of the staff. The ability to streamline various procedures is greatly beneficial for a small or understaffed library. Often, you can ease the burden of overload for some staff, while freeing up time for more specialized projects for others. The key is to develop workflows that work for your library and the size of your staff and resources, as no two libraries are identical. What works for one library, may not work for another.

CATALOGING OF PRINT AND ELECTRONIC RESOURCES IN WMS

As mentioned before, our cataloging workflow was greatly affected by the new ILS. Previously, Steelman staff had been using OCLC's Connexion for both original and copy cataloging. The cataloging librarian would identify or create the appropriate bibliographic record for an item and then import it into Koha before forwarding the item to the cataloging clerk. Once the record was available, the cataloging clerk would then add the item record into Koha and then forward the item on for physical processing. Though effective, the process was often clunky and time-consuming if there was a large volume of print materials waiting to be cataloged. Furthermore, the same procedure was being used for eBooks.

As I delved further into my analysis of the cataloging workflows using WorldShare Management Services (WMS), I was struck with the realization that the staff had been following the same cataloging procedures in WMS as they had in Koha for both print and online resources. Instead of using the cataloging features that are integrated into WMS, staff was still using Connexion to manage records and update holdings. The extra steps involved were time-consuming and unnecessary.

After the workflow was changed to fit the functionality of our new ILS, we no longer import and export MARC records or add item information outside of WMS like we did with our previous system. The new print cataloging workflow involves the copy cataloging of materials in WMS by the cataloging clerk. The clerk identifies the bibliographic records for items with Library of Congress MARC records and adds a local item record within WMS, which automatically attaches the library's holdings. The cataloging librarian reviews anything without a Library of Congress record in order to identify the best MARC record and then the cataloging clerk adds the local item information in WMS. All original cataloging still goes through the cataloging librarian for a MARC record to be created before the clerk adds the item record. The new workflow has greatly reduced the amount of time it takes to catalog items, as everything is integrated into one interface.
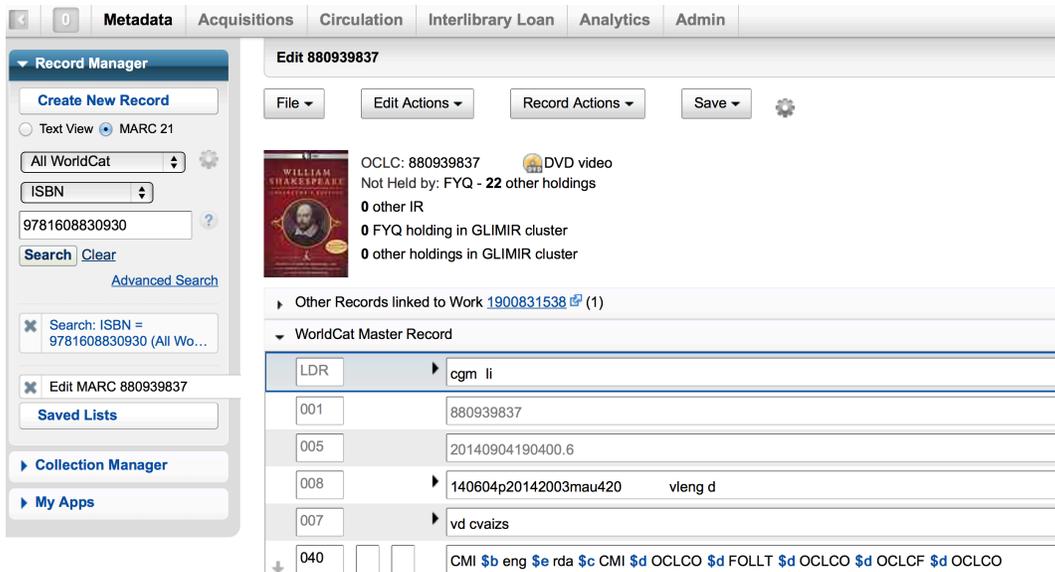
Figure 1. Viewing master bibliographic records in the WorldShare Record Manager

As far as the cataloging of electronic resources is concerned, one key difference between the two ILSs is that WMS has a knowledge base that can be used to provide access to electronic and digital content such as eBooks and databases. Instead of cataloging an eBook, importing the MARC record, and adding a local holding record with a URL in the 856 MARC field, a title is simply selected in the WMS knowledge base and becomes immediately discoverable in the public catalog. This feature of WMS was not being used before my arrival and was one of the first things we changed with our workflows. The new workflow using WMS has reduced the amount of time spent cataloging e-resources by about 50%.
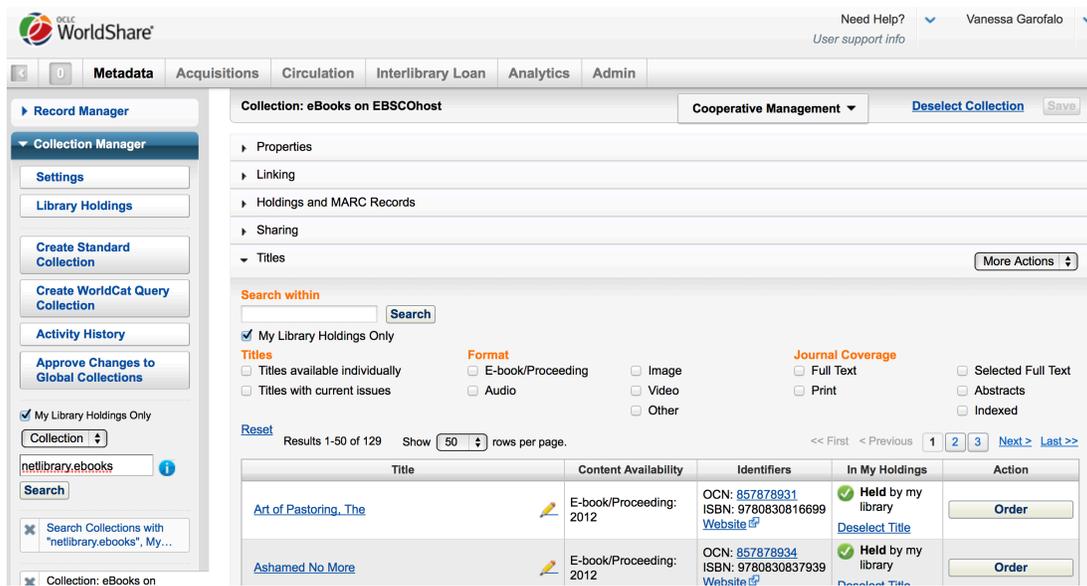

Figure 2. Viewing eBook collections in the WorldShare knowledge base

The WorldShare knowledge base is cooperatively managed. Vendors can share their data with OCLC so that titles and collections remain up-to-date, removing the need to maintain resource URLs. Additionally, member libraries can add titles to global knowledge base collections as well as review and approve changes made by other member libraries. If a collection does not exist in the knowledge base, the library can create their own private collections that they manage locally. This is particularly useful for specialized collections that are specific to a library.

For Patron Driven Acquisitions (PDA) / Demand Driven Acquisitions (DDA), OCLC is working to partner with eBook vendors such as Ebrary and JSTOR in order to provide automatic updates to PDA eBook collections in the WorldShare knowledge base. Once a title is triggered for purchase, it automatically moves from the PDA collection into the library's owned titles collection, making it much easier to manage PDA collections. The WMS knowledge base also pulls article-level holdings into the catalog, positioning print and electronic materials side-by-side. The built-in link resolver then generates a "View Now" link that takes the user directly to the resource. With a mobile-ready discovery interface, users can access these resources from a variety of mobile devices. All of these features have greatly reduced the time it takes to manage these workflows and provide seamless access to our patrons.

PRINT SERIALS CHECK-IN IN WMS

As mentioned previously, when doing workflow analysis and revision, it is important to tailor workflows to your library's staff model. However, you should also keep in mind your users and how certain workflows might affect how things display on the user end, as in your online catalog. After a year of using WMS for print serials check-in, we have noticed that checking in individual issues of periodicals into WMS results in a long scrolling list of issues in the OPAC. The list can become very long and ultimately buries the other information in the record at the bottom, such as the hyperlinked subject headings. This can be difficult for patrons to look at and determine a library's serials holdings, especially for titles that are published on a weekly or biweekly basis.

Figure 3. Print serials holdings in the WorldCat Local catalog

As a result, we have revised our serials workflow and have done away with serials check-in in our ILS all together. Instead of listing individual issues of periodicals, we put a range in the item record in WMS that represents the starting and ending volume, issue and year of a title's holdings. In addition, we provided constructive feedback to OCLC, letting them know about what we considered to be a design flaw. Serials check-in is done online through our main subscription agent, EBSCO and claiming is done as needed. The new workflow has cut the time it takes to check in serials in half, slightly easing the burden of a staff member who multitasks in several different areas.

MANAGING PROJECTS AND WORKFLOWS

Before I began revising our technical services workflows, our library director suggested that we experiment using a free, web-based project management program called Trello to manage some of our projects we have been working on. Similar products exist such as Basecamp or ProWorkflow, but due to a limited budget, our director chose the free version of Trello. Project management software is beneficial in that it helps keep track of various elements associated with a project such as due dates, assignment of tasks, and keeping communication open among project members.

While we have been using Trello for special projects like setting up our new institutional repository, I have found an application for it with our new eBook cataloging workflow. While our print workflow is straightforward, we found that communication was breaking down with our eBook acquisitions. With six different librarians doing purchasing, we needed a way to keep track of different eBook collections and title lists that are purchased. When a librarian initiates a purchase,

they notify me and then the titles or collection is entered into Trello in order to track payment of the invoice, selection of the resource in the WMS knowledge base, verifying access, and any other related tasks involving various staff.

THE IMPACT OF WMS ON EASTER LIBRARY

Prior to taking the position of Technical Services Librarian at Steelman Library, I served as the library director of Clearwater Christian College's Easter Library until June 2014. As the director, I led the ILS migration process that included around 90,000 bibliographic records extracted from Koha and migrated to our new instance of WMS. With only two librarians and one part-time paraprofessional, the change management process involved our users and campus community more than the library staff itself. Our very small staff was in agreement that we needed a more efficient solution for our workflows and WMS appeared to offer that.

While challenging, the migration process itself was not impossible. OCLC migrates libraries to WMS in small cohorts with an assigned OCLC migration manager. The migration included regular training webinars attended by all cohort member libraries, virtual office hours with the migration manager, and an online support center website with tutorials and documentation. With little to no IT support from the college throughout the process, various tasks surrounding the migration of data and configuration of the new system were often difficult, even for a librarian who is no stranger to technology.

Our main focus in letting our users and campus community know about the upcoming change to our system was to market the new public interface as more user-friendly, with enhanced discovery of print and electronic materials. To convince college administrators, it was explained how the back-office system would allow the library staff to work more efficiently, freeing up time to work on more specialized projects. Today, the new director of Easter Library is working to develop an Undergraduate Research Symposium, with additional plans for creative programs and services. They have also experienced increased efficiency in the area of cataloging in WMS

LOOKING FORWARD

As we look forward, it will be intriguing to see how OCLC's WorldShare Management Services will continue to develop as other next-generation ILSs continue to emerge and become more prominent. How long before the traditional ILS fades from our professional landscape? While the next-generation ILS, such as WorldShare Management Services is far more integrated than the traditional ILS, it is certain that there is more room for development for added features and functionality that will streamline workflows even more.

As Marshall Breeding has noted in his article about the transition occurring in the automation marketplace, the change that is occurring is a delicate business and libraries usually don't respond well to such abrupt transitions (2012a, p. 30). Unfortunately, that is the nature of our business as librarians. Libraries have been evolving since their inception and should continue to evolve to adapt to ever-changing user needs. Instead, our profession should look for and embrace opportunities that will allow us to better serve our patrons. For academic libraries, further changes in the areas of technology and its certain impact on higher education are sure to keep us on our toes!

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