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## Agile Electronic Resource and Systems Management

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# Agile Electronic Resource and Systems Management

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Geraldine Rinna

**MANY PEOPLE NOT ENTRENCHED IN ELECTRONIC RESOURCE MANAGEMENT (ERM)** are under the impression that with a mouse click or two in a library services platform (LSP) or an ERM system, users have the ability to discover millions of electronic items. In actuality, ERM is much more complex than it would seem, and the iterative nature of this work means that it is never complete. Currently, there is no single application that can provide the functionality for all the work necessary for the management of electronic resources. Additionally, because there are so many disparate systems and applications used in ERM, it is difficult for the work to be transparent, even among team members, and it is challenging to measure, assess, and articulate the value of that work.

Western Michigan University (WMU) migrated to a new cloud-based LSP in 2015. Shortly after migration, we realized that the electronic resource management section of our new system contained some streamlined workflows, but those improvements were counterbalanced by functionality and feature regression in other areas of our work. In 2017, we added two new staff members, and rewrote all position descriptions for the Electronic Resource Management and Systems Administration team (ERMS team), making everyone's work new and different. The absence of real workflow improvement and the need to train new team members and learn new workflows was the impetus to search for a solution that would fill gaps our new system had yet to address, while increasing communication, transparency, and collaboration. We were

interested in finding opportunities to measure, assess, and articulate the scope and value of our work to library stakeholders. This is the approach taken by the ERM/Systems team. We are not certified project managers, and many of our projects don't fit in traditional project management frameworks; we are, instead, a group of individuals attempting to simplify some very convoluted work, provide the best user experience possible, and develop ways to measure and articulate the value of the work we do.

## LITERATURE REVIEW

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### Agile Project Management

The Manifesto for Agile Software Development was written in 2001. The Manifesto outlines four values and twelve principles to help guide users of this framework to understand that agile processes are about “values based on trust and respect for each other and promoting organizational models based on people, collaboration, and building the types of organizational communities in which we would want to work.”<sup>1</sup> Strict adherence to timelines and milestones inherent in traditional project management frameworks is important, but the Agile Manifesto is also about “the mushy stuff of values and culture.”<sup>2</sup>

Agile methodologies originated in manufacturing and software development, but the nature of project-based library work fits well with agile methodologies. Conforto et al. concluded that agile project management can be adapted by industries other than software development, and there are numerous examples of libraries adopting agile principles and applications.<sup>3</sup> The scholarly literature discusses agile project management used in library administration, innovative library services, library reorganization, ERM, and collections management.<sup>4</sup>

### Electronic Resource Management

About fifteen years ago, the Digital Library Federation (DLF), in their report on the federation's ERM Initiative, indicated that the integrated library systems available at that time were not capable of supporting the work needed for efficient electronic resource management. This document outlined around fifty functional requirements that should be included in a modern library services platform capable of ERM.<sup>5</sup> Since the publication of the DLF's report, there has been some functional improvement in commercial systems, but the scholarly

literature continues to be peppered with articles describing the shortcomings of the systems available and chronicling electronic resource workers' experiences implementing ancillary systems or applications to navigate the labyrinthine work of ERM.

The complexity of electronic resource management, according to Collins and Grogg, "is often underestimated by those not deep in the trenches," and they call it "nothing short of chaotic."<sup>6</sup> The literature indicates that the most help is needed with storage of administrative information, general task management, title level management, acquisitions and renewals, license management, and usage statistics.<sup>7</sup> These workflows represent the lion's share of electronic resource management. Tools discussed in the literature include checklists, forms, ticketing software, Microsoft, Google, and other free and subscription-based applications.<sup>8</sup> Hosburgh, in his article on using techniques for electronic resource management with a checklist, states, "the most important consideration is crafting something that will work for you and your organization and will be open to revision in the future."<sup>9</sup>

More than half of WMU's electronic resource expenditures are for journals and journal package subscriptions. The fluidity of journal content across platforms requires a lot of checking and waiting. We are often notified well in advance of title adds, drops, and transfers, but must wait for content to migrate to new platforms or be split across multiple platforms. We wait for vendors to provide or receive communication about perpetual entitlements and for metadata to be available directly or updated in our shared knowledge bases. Title transfers often require additional communication between electronic resources staff and the transferring or receiving vendor. Breeding describes title level management as being in "constant flux," indicating that the "data provided by the publishers may not be accurate, complete, or consistent, so additional empirical work must take place to align the shared knowledge bases with the content available at any given aggregation."<sup>10</sup>

Hutchens describes the complicated process of data transfer between publishers and outlines how the National Information Standards Organization's KBART recommended practice is an attempt to simplify this process for librarians, but this data remains problematic.<sup>11</sup> Minchew and Slutskaya say that the open-source electronic resource management tool ERMEs does not scale well to title level management, indicating that it "cannot track steps in a workflow or create action alerts."<sup>12</sup> Instead, these librarians use an Access database and Trello for their journal subscriptions workflows.<sup>13</sup>

The usage statistics workflow is one of the most time-consuming and complicated aspects of electronic resource management at WMU. We process usage twice a year to help with renewal decisions and for completing the ACRL, IPEDs, and annual reports to the university. With continually changing standards, manually gathering statistics that are neither COUNTER- nor SUSHI-compliant, the perpetual configuration and reconfiguration of SUSHI accounts, and fulfilling requests for usage outside the regular gathering period, this workflow consumes more person-hours than any other in our electronic resource management. Usage statistics are essential, however, for responsible electronic collections management, and so it is crucial that we keep our statistics workflow as streamlined and efficient as possible.

Ruttenberg explains that one of the top priorities for ERM streamlining is statistics management, and Singley and Natches state that “this is the workflow area with the greatest need for improvement.”<sup>14</sup> Fry states that the statistics workflow requires a hybrid model, and that “any workflow implemented must also be organized for change” as staffing, resources, standards, and automation change.<sup>15</sup>

The process of acquiring, licensing, and renewing electronic resources is the most cross-departmental workflow in ERM. The workflow, the individuals involved, and the applications used to manage this process vary from institution to institution and differ with each subscription. Each individual or group involved in the process uses different methods and applications to manage their part of the workflow, which often begins months in advance of the actual acquisition or renewal. This increases the possibility of communication between stakeholders and steps in the workflow falling through the cracks. We try to keep track of our part of this process using a Kanban board, but this is the least developed project in our portfolio due to the numerous people involved.<sup>16</sup>

England, Fu, and Miller, in their discussion of the use of sequential checklists in a Springshare application for the annual renewal process, define electronic resource management as a “patchwork business of strategically organizing the interconnectivity of resources, tools, systems” and staff with the potential of “becoming increasingly fragmented and inefficient” if not properly managed.<sup>17</sup> Although it can be difficult to bring the acquisition and licensing workflows into a single application, using the Kanban method helps keep things moving. Ostergaard, in her use of Trello for the acquisitions process, notes that prior to her collection development team implementing

Kanban principles to manage this workflow, they struggled with the alternately redundant and dropped communication that inhibit this process.<sup>18</sup>

### **Communicating the Work and Value**

In Hiatt's view, work in technical services has always been a public service, and the migration from print to electronic resources has shifted some of the traditional public services work to technical services employees, blurring the line between back-end and front-end library operations. Hiatt asserts that "much of today's technical services work requires direct communication with patrons."<sup>19</sup> The WMU ERMS team regularly has traditional public service interactions, providing various types of assistance in ways that technical services employees didn't perform during the print era.

Currently, only the transactions and consultations that come to the ERMS team from the public services system are included in the libraries' external reports, while issues routed to us through other channels are not. Additionally, tracking and counting the issues coming from all channels is a difficult and time-consuming process. Gathering this data meets the strategies and objectives of the WMU Libraries' strategic plan to "make the user experience central to the design and delivery of all services."<sup>20</sup> The addition of technical services transactions and consultations in our annual reports will more accurately reflect the libraries' total interactions with the public and is one of the goals we hoped to accomplish with the adoption of an agile management tool.

As library acquisitions budgets have shifted from print to electronic resources, the expected shift in staffing has not necessarily happened. Miller, Sharp, and Jones indicate that "many libraries have an early 21st century budget, but a staffing model in collections and technical services dating from the 1990s."<sup>21</sup> Breeding attributes this to the legacy "bicameral model" of managing print and electronic resources in separate workflows, and thus agrees with Miller, Sharp, and Jones, who say, "the result is that the staff and attention accorded to all aspects of e-resource work suffer while a larger portion of staff remain dedicated to long-standing practices in the acquisition, cataloging, and maintenance of books. The problem is compounded by the fact that the e-resources to which a typical academic library provides access are not only numerous but are also of course notoriously volatile."<sup>22</sup>

In recent years, the WMU Libraries has been adjusting staffing levels across all library departments. The ERMS team continues to streamline our

workflows and discontinue unnecessary tasks in order to take on additional responsibilities assigned to our unit, and in anticipation of making time for projects that have long been “on hold” or which will provide added benefit for our users. For print-based workflows, the number of bibliographic and item records a library has created, updated, or deleted can be counted in our new system. We can also count the number of new physical items received and old physical items deaccessioned. Moreover, the ability of other units within the library to measure their work now makes it easy to justify new staff positions.

For electronic workflows, we can count the number of electronic items added to or deleted from our collection by capturing a snapshot in time, but this number represents only a small percentage of the work done by the ERMS team, with much of the day-to-day work going uncounted. Finding new ways to track, measure, and articulate the esoteric nature of the work accomplished by the ERMS team is a major goal we’re hoping to accomplish with the adoption of agile principles. Stakeholders understand the value of the work we do, but we would also like to demonstrate the volume of our work.

## CASE STUDY

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This case study examines the period between 2017 and 2020 when additional responsibilities and two new staff members joined WMU’s ERMS team. All four team members were in new positions, and their fresh perspectives and additional responsibilities provided the perfect opportunity to implement the agile philosophy and an agile management tool that would help us streamline our work and increase transparency, collaboration, and communication.

### Scope and Methodology

The case study method was chosen to analyze the implementation of agile principles and an application to consolidate the work and communication from disparate systems used by members of the ERMS team into a single application. We were looking for meaningful ways to track, measure, and articulate the work of systems administration and the management of the electronic resources life cycle to library stakeholders. The data presented in this case study was retrieved from the ERMS team’s Asana project boards and other applications and our daily stand-up meeting notes.<sup>23</sup>

## The WMU Libraries' ERMS Team: Background Information

Western Michigan University, located in Kalamazoo, Michigan, is a Carnegie-classified R2 doctoral-granting institution with over 20,000 students enrolled in more than 250 degree programs.<sup>24</sup> WMU Libraries is comprised of the main library, a Regional History Center and Archive, and a Special Collections and Rare Books room. There are 49 staff, faculty, and administrators working in the libraries.<sup>25</sup> Our annual acquisitions budget is in excess of \$5,500,000, with over 90 percent of that allocation spent on electronic resources and supporting systems.

The ERM unit, part of the Resource Management Department, is currently comprised of three full-time staff specialists, one member of the library faculty, and student employees working 1,300 hours per year. The unit is responsible for maintaining functionality across more than 150 vendor interfaces, and providing stewardship and support for more than 2,000,000 individual electronic objects (books, journals, streaming videos and audio files, etc.) and around 500 databases. We also manage the administration of our LSP, discovery layer, and off-campus authentication system.

In 2015, the ERM unit was comprised of one full-time faculty member, two full-time staff members, one part-time temporary staff member, and student employees working 1,500 hours per year. In mid-2015, WMU Libraries migrated from the Voyager ILS, SFX link resolver, 360 Resource Manager ERM system, and the Summon and VuFind discovery layers to the Alma LSP and Primo discovery layer. Several factors, including departmental restructuring and staffing changes, affected the administration of these new systems, and by May 2017, the ERM/Systems team were the sole administrators of the discovery layer and were leading the cross-departmental Alma Administrators group. The administration of the off-campus authentication system, EZproxy, had long been part of the portfolio of electronic resource management.

By late 2017, a new ERMS team was in place at the WMU Libraries. All four members of the team were either new to the libraries or new to their positions. With several responsibilities added to the team's portfolio in the previous two years, we began the process of organizing and streamlining our workflows. We use a plethora of applications to communicate with our users. Our communication channels include four individual e-mail accounts and one departmental e-mail account. We use two ticketing systems: Springshare LibAnswers, which is employed by our User Services and Instruction and Outreach departments,

and RequestTracker (RT), used by our Information Technology Services Department. We have a feedback form and a chat widget embedded in our discovery layer. We also employ an internal instant messaging system, four telephone numbers, and four desks where we receive walk-up communication.

We used spreadsheets, electronic documents, individual and unit calendars, electronic and paper lists, and an internal wiki to manage both the individual and the collective work in our unit. Although each of these systems was necessary for the effective work of the unit, and many of them are still in use, using them in isolation from each other is not a best practice for time management, makes transparency and collaboration difficult, and is not conducive to the informal communication and access to information that supports the assimilation of new skills.

### **Agile Project Management at WMU Libraries: Initial Work**

The ERMS team's first encounter with the agile philosophy occurred when one team member was looking for a solution for managing current and future tasks. The volume of discrete tasks needing attention in ERM had increased over time, but there was a marked jump after the migration to our new systems in 2015. After the migration, this team member struggled with using a calendar and lists to manage ERM tasks. It became increasingly difficult to search, append documentation and files, and change due dates with tasks on a calendar that also contained other work-related items, like meeting and webinar invitations. A free Kanban board provided greater ease of use, introduced us to the agile philosophy, and was the motivation for us to adopt it as a team.

Our first step in the process of becoming an agile team was to audition and select an application to use. We started with the free version of Asana, a Kanban system, because its functionality would serve our purposes. We were able to export CSV files from this application, which was not an option at the time in other free Kanban applications we examined. Some team members also preferred the look and feel of Asana, which is an important aspect of any application you spend a lot of time using.

We also began to learn about the agile philosophy, and adapted the wording of the twelve principles of the Agile Manifesto to apply directly to our work.<sup>26</sup> The fifth and eleventh principles of the Agile Manifesto state that you should “build projects around motivated individuals, give them the environment and support they need, and trust them to get the job done,” and that “the best architectures, requirements, and designs emerge from self-organizing

teams.”<sup>27</sup> These principles lie at the heart of what we were hoping to accomplish: to bring everyone and as much of our communication as possible into a single application and provide a safe space where we could improvise, tinker, and learn from each other because doing so often leads to new and better ways to accomplish work.

The ERMS team’s Asana instance is comprised of eleven permanent project boards. Each team member has a personal board to manage their individual workflows. We also have three separate project boards for systems administration. We have a project board for “Trouble Tickets” to manage issues reported to or encountered by us. We also have a board to manage the process of collecting usage statistics and boards for general ERM and collection management workflows.

We constructed each of our collaborative project boards as a group, reaching consensus on its construction based on relevant workflows, and each board is different. Our personal boards are constructed based on user preference and differ slightly from each other. We assign a task to a particular board based on the nature of the task. For example, the configuration of a new import profile for e-book acquisitions is added to the Alma board, but the task of monitoring that import profile is included on the personal board of the team member to whom that daily task is assigned.

We have an informal process for evaluating the construction of our boards. We periodically discuss this during our stand-up meetings. Our stand-ups are an opportunity to put into action the twelfth principle behind the Agile Manifesto, which states, “At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.”<sup>28</sup> We discuss new projects, brainstorm solutions, and reflect on a variety of topics, including issues with a project board’s use or construction.

### **Usage Statistics Project**

Prior to implementing an agile tool, our usage tickets workflow was our most onerous responsibility. After migrating from our previous ERM system to our current LSP, we experienced several regressions related to the workflow of our electronic resource usage statistics, which resulted in many additional hours of manual work.

The first regression in usage statistics was the loss of a paid usage statistics service associated with our previous ERM. So long as administrative credentials were up-to-date in that system, statistics that were not SUSHI-compliant

were gathered and uploaded on our behalf, and we received a ZIP file of all usage statistics for archival purposes. With this paid service, we retrieved usage statistics only when there was a pressing collection development need. Unfortunately, the loss of this service added about 600 additional person-hours per year to our workload.

Other regressions relate to a lack of functionality in our new LSP. There is currently no embedded workflow for usage statistics. With no way to assign tasks or track progress, an ancillary tool or application is needed, even when only one person is responsible for this task. Administrative log-in credentials can be stored in the LSP, but we have no ability to export that data, and the lack of clickable link functionality in the Uniform Resource Identifier (URI) attributes dialogue box adds hundreds of additional steps in the workflow to copy and paste URIs from Alma to the browser. This can lead to mistakes in the spreadsheet during the copy/paste process and increases hand fatigue.

The vendor-interface structure in the LSP and the complicated nature of electronic resource management both factor into the inefficiencies with using the LSP for our usage statistics workflow. For example, we have several instances where we pay for a subscription directly to the vendor and pay our consortium for a different subscription on the same platform. This double platform-to-vendor association would require us to maintain interface-related notes to prevent duplication of work, which is an additional and unsustainable burden on our time.

For the reasons stated above, we abandoned the maintenance of administrative credentials within the LSP shortly after migration. A spreadsheet was used to store administrative credentials and track progress toward completion of this workflow for the first two years after migration to the new system. Using spreadsheets for administrative credentials is a common practice in libraries. Spreadsheets provide the ability to create IF/AND functions or Visual Basic statements to aid in the workflow, but this requires additional maintenance time. When this became a unit project with multiple staff completing the work instead of a single individual, we experienced some versioning and size issues with our spreadsheet, and the maintenance of the formulas and functions required more time than we could afford.

We created the Usage Statistics board based on the traditional Kanban structure of three columns, labeling ours “To Do,” “Done,” and “SUSHI.” Our card structure is platform-based, and we moved each card from the “To Do” column to the “Done” column when the work for each platform was complete.

Upon completion of the project, we simply switched the location and the name of the column so the board was ready for the next cycle. The “SUSHI” column was a placeholder for each SUSHI-compliant vendor, and each card had a recurring subtask to check the harvest.

We updated this board almost immediately. We have several vendors that do not automatically provide usage statistics. We request these statistics, which are usually not COUNTER-complaint, and receive them in our departmental e-mail account. The ability to forward e-mail messages into our Asana board is extremely convenient, but this workflow complicated the simple, three-column board because when you forward an e-mail to create a task, it is added to the first column on the board. We needed to keep these one-time tasks separate from our recurring tasks, so our final iteration of this project board included an “Other” and “Other-Done” column as the first and second columns in the project board. These columns accepted the one-time tasks that came from our vendors via e-mail, and extraordinary tasks, such as gathering final usage statistics prior to vendor platform migrations. Having these tasks in columns separate from the vendor platforms meant that we didn’t have to remove tasks from the “To Do” or “Done” column prior to our starting another usage statistics cycle.

The current board has been in use since July 2018. We no longer separate our “SUSHI” accounts from the “Platform” tasks but now use a tag to mark which platform is SUSHI-compliant and have a recurring subtask to check that the SUSHI harvest is functioning properly. Additionally, recurring subtasks are created for all non-SUSHI vendors, and we use tags to indicate which version of the COUNTER code of practice the vendor is using. We added a column to keep track of our “Canceled Subscriptions” and a column labeled “No Statistics for WMU” for platforms that do not provide them, so that we don’t waste time trying to figure out why we don’t have usage in our archive. We also have a “Documentation” column, which includes workflow diagrams and other useful information.

Since moving our usage statistics workflow to Asana, we have decreased the number of hours devoted to this workflow by nearly 20 percent. Usage statistics is still an onerous task, but this work was streamlined with each iteration of the project board and adheres to the tenth principle behind the Agile Manifesto, which states that “simplicity—the art of maximizing the amount of work not done—is essential.”<sup>29</sup>

## Trouble Tickets Project

The first principle of the Agile Manifesto says that “our highest priority is to satisfy the customer through the early and continuous delivery of valuable software,” and although we are delivering electronic resources rather than software, we strive toward that goal by being as responsive as possible with our users.<sup>30</sup> Traditional customer service measurements like the Net Promoter Score are not useful since we’re usually the only people that can solve ERMS issues. Because the user has no other option, we treat each issue reported as if it were a system abend and have developed our Trouble Tickets project board to help us keep track of errors in our systems, spot trends, and evaluate the volume and quality of public service transactions and consultations.

This board, created in January 2018, brings together communication from the disparate channels we use. Tasks originating from our personal and departmental e-mail accounts and RT are added to our board by forwarding using the board’s e-mail address. Instant messaging communications are added using an integration. After initial investigation, and depending on the scope of the issue, some cards created on the Trouble Tickets board are transferred to other project boards.

Trouble Tickets follows the traditional Kanban structure of “To Do,” “Doing,” and “Done,” with some additional columns to better match our workflows. We have a “Waiting” column for those issues that have to be resolved elsewhere, a “Not Doing/Can’t Do” column for when we run up against a limitation in our systems, and a “Documentation” column that enables us to keep track of some workflow documents and other information pertinent to issues that we, and our users, encounter. Task due dates are adjusted as we wait for a vendor to resolve the issue, and notes are added to document the issue’s progress.

Each task on this board receives at least one tag. We tag using broad categories such as “User Issue,” “Platform Issue,” “System Issue,” and “Metadata Issue,” for example. We may add additional tags as needed, but each card has at least one defining tag so that we can determine the number of the various types of issues that we receive notifications about and resolve in a given period. Having all the cards on a board tagged in some way is beneficial for searching the board using specific criteria and allows us to isolate the number of transactions and consultations we should be sending to the administration for their official reports.

Both regular ERM work and issues on the Trouble Tickets board often require the expertise of a cataloger. Our cataloging librarian is a member of our Asana instance, and any issues that require change to a bibliographic record are assigned to that librarian as a task or subtask. This eliminates the need for additional communication, and we know when the task is complete without the need for follow-up. When appropriate, tasks assigned to cataloging are counted as a transaction, further increasing our ability to report these transactions accurately to library administration.

We have two fiscal years of data on our Trouble Tickets board and are pleased with our ability to bring together most of the communications we receive into a single interface. We can immediately respond to our users from the originating application, and in our initial response, we can also create a task, assign it to a team member, and give it a due date. We can append the task with replies from anyone using the e-mail address generated from Asana for that task.

Previously, issues reported to individual team members, and through the channels used by Public Services and IT Services, were created and existed in isolation from each other, delaying our ability to spot trends and rendering these issues impossible to count. Although our Trouble Tickets board serves as the main repository for this information, it will never be a complete representation of this aspect of our work. With all four team members available for direct communication across many channels, we sometimes resolve an issue and forget to add the task to this board, but we now have something in place that provides a more complete picture of the number and variety of issues the team resolves.

We can use the data from the board to demonstrate the exceptional customer service our users receive. We can query our Trouble Tickets board for the number of tasks assigned the “User Issue” tag for a specific period, for example, and export the search results to Excel and add a formula to calculate the average resolution time. We now know that most of the issues that we receive are resolved the same day. Aging, incomplete tasks usually require either communication between an electronic resource vendor and our LSP provider, a central knowledge base update, a bug fix on the vendor platform, or a version release by our LSP provider.

## Other Project Boards

Our boards for Alma, Primo, and EZproxy help us manage system updates, configuration changes, general maintenance, and feature rollouts into production instances. These boards don't fit into traditional project management frameworks because there is no end to managing these systems. They do intersect, however, with the first, third, and seventh principles in the Agile Manifesto: to "satisfy the customer through early and continuous delivery of valuable software," to "deliver working software frequently," and the principle that "working software is the primary measure of progress."<sup>31</sup> Although our Alma, Primo, and EZproxy boards have tasks assigned to all members of the ERM team, much of the work documented on these boards is the responsibility of one or two people.

We have created several project boards that fit into the traditional project management principle of having an end date. Since implementing Asana, we created a project when we needed to update vendor platforms with a new OpenURL. We copied our Usage Statistics board because it already contained the data needed for this project. Shortly before the workflow for this project was complete, the university released new branding logos and colors, and the staff member responsible for this work adhered to the second principle of the Agile Manifesto, and very cheerfully did they "welcome changing requirements, even late in development" and pivoted to add this new task to the project.<sup>32</sup> We created a project to evaluate and relink all our purchase orders, to evaluate our shared subscriptions with our medical school, to manage the automation of the government documents workflow, and to collaborate with our cataloging team to complete a complex workflow of cataloging and uploading several WMU-created videos to a streaming platform. We archive these completed projects in our Asana instance for future use and reference.

Our Systems, Personal, and Temporary boards have not been analyzed individually, but we have compiled task data from all project boards for two years to determine task volume. We have learned that we create an average of 546 new tasks each month and complete an average of 478 tasks each month. We can see that the average number of tasks completed monthly across fiscal years 2019 and 2020 is 416. We expected to see the highest number of new tasks created in January as new journal package entitlements were processed, and our data shows what we expected, with 609 and 866 new tasks for January 2019 and 2020.

## LESSONS LEARNED AND FUTURE STUDY

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### Daily Work

The use of agile principles and tools has been beneficial for the ERMS team in many ways. We have unified much of the work that occurs outside of our library systems into a single interface. The ability to visualize our work as discrete tasks helps us set the tone for the day, establish priorities, and limit work in progress as much as possible. We can easily determine which tasks to postpone when a critical issue arises. ERM staff can view their tasks according to the task due date, the project board on which the task exists, or the tag included on each task.

The ability to change the structure of our project boards has helped us streamline workflows and increase efficiencies. We can now count the number of tasks created and completed each month. However, we need to begin tagging all tasks to better analyze this data. We recently added a time tracker that will calculate the time spent on a task. With a time tracker and expanded tagging, we should be able to glean much more information from our project boards, and help determine if there are workflows we should analyze for further streamlining.

### Communication

We now have an efficient mechanism for managing and calculating issues reported to us through all our communication channels. Before implementing our Trouble Tickets board, we didn't count our interactions with the public. We now know that we receive or self-create an average of 48 tasks on our Trouble Tickets board each month. Tagging these tasks allows us to separate these interactions into specific categories and evaluate our level of customer service. Since fiscal year 2019, we include the transactional issues in our departmental annual report to the library administration for their inclusion ACRL, IPEDS, and reports to the university.

Implementing stand-up meetings has strengthened our working relationships, and we connect our stand-ups with the sixth principle of the Agile Manifesto, which states that “the most efficient and effective method of conveying information to and within a development team is face-to-face conversation.”<sup>33</sup> Stand-ups give us an opportunity to discuss our current group projects and ask questions about our individual work. Through these conversations, we often generate new ideas for working smarter.

We usually begin or end stand-ups with general topics. Our “water cooler” talk is a way for us to build and strengthen connections with each other. Discussions not related to work may seem like a waste of productive time, but they have been beneficial for the development and maintenance of a cohesive group and give us a mid-morning break from the intense focus required for electronic resources and systems management. Staff new to the ERM team built strong working relationships with their new colleagues by discussing pets and hobbies. Two members from IT Services joined our stand-ups in 2020, and casual chatting has given us the opportunity to get to know them on a more personal level. These people support us in our work, and through stand-ups, we have gained a greater appreciation of their work and a better understanding of the work they do for others.

Communication between the staff members in ERM is not something that we analyze closely, but we have noted some shifts in our communication patterns since implementing agile principles. E-mail communication between the electronic resources librarian and electronic resources specialists decreased an average of 47 percent in the period from 2018 to 2020. Most of this communication now takes place in Asana, instant messaging software, or stand-ups, and we attribute some of this decrease to the concurrent implementation of Asana, Slack, and agile principles.

### **Project Maintenance**

We have learned that for some projects, it may be beneficial for us to start with a fresh project board at the beginning of each fiscal year. The Trouble Tickets board is one that we plan to refresh annually. Doing this will enable us to archive all the data from the previous year and will also make the project easier to search and easier to export when needed.

Implementing JavaScript Object Notation or Python could provide additional ways for us to analyze our data and resolve truncation issues with manual exports. Two ERM team members are currently completing a Python class, and we hope to be able to find time in the future to implement several “value-added” projects related to our project boards.

### **Workload**

Our workloads increased again in 2020 as we took over the responsibilities of staff in IT Services and from a faculty retirement. We added a few new project

boards to help manage this new work and are able to identify the critical tasks that need attention, as well as delay some work that would not impact the users directly; this has allowed us to adhere to the eighth principle of the Agile Manifesto, which states that “Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.”<sup>34</sup> Until we can complete another work reevaluation to determine if there is anything else we no longer need to do, and rebalance the ERMS team workload or hire additional staff, our project boards have been an invaluable tool in evaluating and prioritizing our work.

### **The COVID-19 Pandemic**

The importance of our agile project management application was never more evident than during the initial months of the COVID-19 pandemic. Our systems boards and all four team members’ personal boards played an instrumental role in keeping our systems and electronic resources available for our users at this time. During the initial months of the pandemic, the ERMS team was working at only about 37 percent capacity. Staff members working were able to view the conscientiously managed project boards of others on the team. With day-to-day ERMS tasks documented, it was very easy to view our colleagues’ tasks and complete any critical work while assigning new due dates for the work that could wait until their return.

The ongoing work prior to the pandemic demonstrated our adherence to the ninth principle behind the Agile Manifesto, which states, “continuous attention to technical excellence and good design enhances agility.”<sup>35</sup> The ability to quickly step in and take over critical tasks would have been a herculean endeavor without the meticulously managed workflows documented in our Asana instance.

We have not yet begun to analyze our Asana data from fiscal year 2021, but we expect to see some unusual data related to the COVID-19 pandemic. For the 2021 fiscal year, the acquisitions budget was reduced to \$5.5 million, and we expect to see an increase in tasks related to the deaccessioning of electronic resources into the next fiscal period. We have additional responsibilities that we will have some data for, but we still need to determine not only the scope of this work but also the best way to incorporate it into existing project boards, or create new projects.

## CONCLUSION

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When we adopted the agile philosophy, we were hoping to balance our workloads, cross-train team members in the specialized aspects of ERMS management, and increase transparency and collaboration. We also wanted to consolidate and count our public service transactions and consultations and measure the volume of our work. Using agile principles and an agile management tool has enabled us to do this.

We have reduced the time needed to process electronic resources usage statistics by more than 120 hours per year. We have consolidated much of our work and communication into a single interface, providing us with a valuable documentation repository and the ability to report to library administration about the public service transactions and consultations that happen in the technical services. We have also learned that we need to tag all tasks to analyze our data in depth.

The ERM/Systems team's hard work and use of Asana in the years leading up to the COVID-19 pandemic enabled us to pivot to remote work with a reduced staff and made it much easier to incorporate additional responsibilities into the daily work of ERMS management at the WMU Libraries. What we do has changed considerably over the past three years, and the way we accomplish that work has fundamentally changed. We are an agile team and are well prepared for future change.

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