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Best Practice to Accurately Collect, Review, and Present eResource Data that is Utilized by Libraries in a University Setting

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Best Practice to Accurately Collect, Review, and Present eResource Data that is Utilized by Libraries in a University Setting

for:

Dr. Cathy Bareiss
CSIS491 – Research in Computer Science
Olivet Nazarene University – Fall 2017

By:

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Introduction

Libraries today have many resources available online. Some of these resources also known as electronic resources (eResources) are easily accessible to all patrons of the library. With all these eResources, there needs to be a way to monitor/measure their usage. At Benner Library on the campus of Olivet Nazarene University, the Informatics Department collects, monitors, and analyzes these statistics through a time consuming manual process. The purpose for this research project is to evaluate the Informatics' process and compare it against an automated process (SUSHI). At the conclusion of this report, there will be a recommendation as how best to handle the processing of the usage statistics of Benner Library's eResources.

Detailed Information/Description of Topic (Educate on the Topic of eResources)

eResources are sources that are obtainable in electronic form, they may consist of online databases, electronic journals, articles, journals, eBooks, databases, photographs, images, music scores, videos (streaming and downloaded), other multimedia materials, and websites. These resources might be files or live streaming that are accessible twenty-four/seven from on campus or remotely through ezProxy login. The use of eResources includes searching, browsing, opening, examining, and visiting by an end user. (Kumari, 2015)

The need for eResources

The popularity of eResources have become the norm when doing research for a project or report. With everything so easily accessible on the Internet, patrons today want to have instant gratification and have the materials available when they want them. The growing problem of shrinking physical space within the building of a library gives good reasoning for utilizing eResources. The need for researchers to have updated information for their projects allow eResources to be a better alternative than purchasing copies or coming to the library for print copies. The speed at which one can search and narrow down the information needed for their research compared to looking through books is another justification for eResources. At ONU, there is a variety of online classes and programs where many students never step foot onto campus and only access the library through the library's website, our online presence.

Ways to purchase

eResources can be purchased from several different suppliers: publisher, provider, and consortium. Purchasing from the publisher is directly from the company/individual that creates or provides the material. Providers are companies that make available items from themselves and from other publishers. While a consortium works as a bulk intermediary and purchases multiple licenses from a publisher or provider at a reduced cost to the end users that they support. (The consortium also contributes networking for participating libraries and provides other useful services.) The way the resource is purchased has a substantial effect on how statistics are collected

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and utilized. For instance, if purchased through a consortium, statistics may need to be gathered from the consortium, the provider, and the publisher and then compiled to have accurate information.

Publisher

The seemingly easiest way would be to purchase an eResource is straight from the publisher. However, that may not be the friendliest option. Many publishers do not have the best user interface for administrators or end user experiences. They may not be able to provide the support needed when issues arise or when statistics are needed. Two examples of publishers are Early Church Text and Wiley. They can be a one-man shop such as the case with Early Church Texts, who have to be emailed for statistics. Sometimes the customer has to wait until the staff member is available because the maintenance of this publication is often not their only job. On the other hand, there are publishers like Wiley that are readily available and have their statistics accessible electronically at will. Both provide a service of accessing their information, but at very different spectrums.

Provider

Purchasing the resource through a provider is a nice alternative. One advantage of purchasing through a provider would be a uniformed platform for administrators and end-users from several different publishers. Another advantage is the support from a provider is often more consistent with a larger provider than with a smaller publisher. However, there are some disadvantages:

- the cost might be a little higher with the overhead of the middleman
- the provider may not have a platform and needs to enable the publisher interface
- the provider might not have administrative functionality
- if provider goes down access to many of eResources may be interrupted or lost

An example of a provider would be EBSCO, which has a user-friendly interface, dependable/timely support, and allows for uniform self-service statistic collection. EBSCO provides a good portion of Benner Library's eResources, approximately 42 out of 144 databases.

Consortium

The third option would be to procure resources through a consortium, which allows multiple libraries to purchase the same eResource at a discount. One advantage with obtaining through a consortium is that they will often take care of some troubleshooting for those libraries. Another benefit is that they can determine if others in the group are having similar issues. A final advantage is that the consortium administration may hold more weight with the publisher or provider to get issues resolved sooner. Consortium of Academic and Research Libraries in Illinois (CARLI) is one of Benner Library's consortium providers.

Types of eResources Statistics

eResource statistics have many terms that need to be defined: searches, full-text, price per click, and turn-a-ways. Searches occur when a patron is looking for something and that item is returned in the list for the patron to review. Full-text refers to a patron accessing a complete copy of the

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item that they desired. In some cases, a full-text article is accessed without a search such is the case where a professor provides a student or class with a link to a specific article or the article is linked on the library website. Price per click is the cost of an item divided by the number of times full-text was accessed. Turn-a-ways are when the patron cannot gain full access to an item. This often occurs when a library database has only an abstract or citation available. (The patron has to try to access the full-text link in order for the vendor to record a turn-a-way statistic.) Each of these statistical types help determine the future of a resource.

The Need for eResources Statistics (Why)

The most common purpose for collecting/analyzing eResource statistics is to make decisions about cancelling or cutting access to the research material for saving money (chopping block), acquiring new resources, and renewing access to some of the materials. However, there are additional needs for the access of eResource statistics, such as, finding underutilized material and determining why the materials are not being used. In addition, analyzing trends of the materials like the types and subscription dates can lead to cost savings. The statistics can show if there are issues when trying to access certain resources. Additionally, there are several reports where statistical data from the access of eResources are needed to comply with University and governmental standards.

Cancelling, Acquiring, and Renewing

The collection of statistics are an integral part of acquiring and maintaining eResource materials. The institution that purchases the eResources usually pays quite a bit of money to gain access and needs to ensure that funds are spent in the best manner possible. With every year, additional budget cuts are a constant reminder that statistics are an integral part of the decision-making process for keeping or acquiring new eResources material. Statistics, empower faculty and librarians to make the best decisions when it comes to eResource subscriptions. When discussing the library budget with the administration, statistical numbers do not lie as to the importance of the research information accessed.

Searching and full-text statistics offer important information regarding the usage of a eResource. The higher the usage number the more likely the library is to maintain the subscription. A factor that should not go unnoticed is the price per click calculation, which is easily computed by taken the price for a subscription and dividing by the number of full-text access to that subscription. This number could show that while an item only got 2,000 full-text hits out of the 1,000,000+ combined full-text available, the cost per click was only \$.25. On the other hand, a larger supplier has 10,000 full-text hits, but the overall cost was more expensive so the per click price might be \$1.00. These numbers would have to be thoroughly investigated to determine the next step.

Underutilized Materials

The statistics of eResources are not only utilized for the chopping block. They sometimes point out when a publication is underutilized. This notifies the library staff that the resource may need to be publicized and the end users may need to be educated as to its usefulness. This is often accomplished through either website tutorials or library instructional sessions. Underutilized publications can also show that when a professor requests something for a class, there may be

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untraceable dissemination (the professor might be printing and distributing photocopies or downloading and forwarding a PDF of the material.) This could be an entirely different paper concerning copyright laws. (Schufreider & Romaine, 2008)

Trends in Research

A third reason statistics are important is that they can also be used to determine the trends in research. This can show which journals are being utilized even going as far as showing years of publication (YOP). An example might be to determine if current years are needed or if an embargoed subscription would suffice. An embargo is “a period during which access to academic journals is not allowed to users who have not paid for access” (“Embargo (academic publishing),” 2017). Many publishers have an embargo for their electronic version which can be from one month to three years. They do this typically when other vendors provide that specific journal as part of a collection of journals. This forces libraries to purchase straight from the publisher for the latest issues, usually at a premium. If the latest editions that are embargoed are not crucial, the library can obtain this journal through a collection of journals which can be a significant savings for them. YOP statistics are crucial to making these types of decisions.

Turn-away statistics are also important to monitor because they will inform library staff about resources that the patrons needed, but could not gain access. If this occurs multiple times for the same item, it will show that the library might need to purchase access to that item. Another option would be to educate library patrons to an alternative that will meet their needs. In addition, the library staff member might use the opportunity to educate the patron on how to access the item through library sharing.

Issues with Access

The analyzation of the statistics might also indicate that there is an issue with access or in some cases with the recording of eResource usage statistics themselves. This might be demonstrated where numbers were consistently at a certain level, but then they suddenly drop off or skyrocket. At times, this can indicate that there is a database access issue. This might mean that the database is inaccessible (down) for a period of time and may need to be reported to the publisher, provider or the consortium. Other times, it may indicate that material is only utilized when a class is in session at a particular time of year. Some resources could be dropped and re-added if class is only offered biyearly (every two years). There have also been instances where the numbers provided from the source have been misrepresented and need to be recalculated by the provider. Of course before making final decisions consider that it could be that the data collected was entered incorrectly when it was retrieved from the source.

Reporting Standards

Last, but not least, statistics are required for various reports that need to be completed by the director of the library. State reports require statistical data for the state’s annual report that include eResource statistics. The university report to the administrative team shows the utilization of the library to keep the needed funds. Library material and eResource statistics are also utilized for accreditation criteria for certain programs offered by the university. In addition, consortium reports

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are utilized to determine if the material offered by the consortium meets the needs of its members or can be expanded to offer more material.

The SUSHI Process

The Standardized Usage Statistics Harvesting Initiative (SUSHI) would not be available without utilization of Project COUNTER (Counting Online Usage of Networked Electronic Resources). SUSHI allows for quick access to usage statistics from publisher, providers, and consortiums. Accessing the statistics through SUSHI can be aided by open source Electronic Resource Management systems (ERMs), or can be established in custom programs with a team of developers. This study used CORAL, an Open Source Software (OSS) ERMs, as the application to collect the usage statistics.

Project COUNTER was established to provide a Code of Practice to report usage of electronic resources in a consistent way. Therefore, those statistics can be easily compared amongst suppliers by library staff. COUNTER has independent audits of suppliers to ensure that they adhere to the standards they set forth. This standard allows for credible and comparable usage statistics. COUNTER is made up of libraries, publishers, and providers that contribute to the development of the Code of Practice. Without the COUNTER standard, SUSHI would not be able to pull statistics from multiple providers and get reliable and comparable usage statistics.

Mr. Koppel “likened SUSHI to duck hunting: The retriever dog (SUSHI protocol) sniffs out and brings back the duck (the COUNTER file), but the dog itself doesn’t know how to de-feather and cook the duck. SUSHI brings back the statistical data in a COUNTER format, but the ERM (or other software) has to make sense of the data.” (Hendricks, 2007, p. 425). SUSHI protocol has a request that is wrapped in a Simple Object Access Protocol (SOAP). This request is sent to the SUSHI server which unwraps the requesting and generates the requested information. That information is wrapped again in SOAP and sent back to the requester. The requester then unwraps the information that can then be processed. (Pesch, 2013). The need for a custom or OSS application is obvious, with SUSHI only being capable of retrieving and its required protocol setup.

While the custom and OSS options seem to be similar, the time of implementation is dramatically different. With the OSS, determining how to use the software is the biggest hurdle whereas when creating a custom application, it needs to be designed and developed before starting the process above.

Stumbling blocks custom SUSHI applications

Something that can hinder a custom SUSHI application would be to have a developer that does not understand XML. XML which is part of the COUNTER standard is only one issue. The developer also, needs to be able to navigate the protocols needed to send the SUSHI request and handle the retrieve SUSHI file, which are in a JSON format. The retrieve file needs to be parsed out and populate an established or newly created database to store the usage statistics. Then the

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custom application needs to have the ability to pull the usage data into useful reports that the librarians can utilize to make informed decisions.

Stumbling blocks with OSS applications

A stumbling block is locating an OSS that handles all of the needs without compromising on important requirements. Then the software may require more information than needed to accomplish the goal. Other times, OSS may not cover all the requirements desired and concessions might need to be made. A concession might be revising, in order to customize the OSS to cover additional needs. With those revisions, the license of the OSS needs to be reviewed to ensure alterations are allowed to the application. With all new software written by someone else, there are learning curves that need to be worked through.

Once the OSS is chosen, there are some hurdles that need to be handled:

- Installing the OSS along with the required resources needed for the application to run; For example: versions of php, sql and apache server.
- Entering current eResource subscriptions into the OSS, either manually or through an upload process, if available
- Establishing how to set up and pull the SUSHI usage statistics through the OSS
- Accessing those statistics

The Simplicity of the SUSHI Process

A few steps need to be followed in working with the SUSHI process:

1. Determine which publishers, providers, and consortiums are SUSHI compliant http://www.niso.org/workrooms/sushi/registry_server/.
2. Read the setups per vendor as there may be a switch to turn on to allow the ability to pull SUSHI data and retrieve credentials needed.
3. Set this up in an application (custom or OSS) and schedule when to pull the data.
4. The usage statistics will then be stored in the application and available to be retrieved as needed by anyone with permissions.

Manual Process

The current process for pulling eResource usage statistics for Benner Library is a time intensive procedure. In the Informatics' office, there are 9 student workers, a staff member, and a librarian that pull the statistics for their assigned suppliers (publishers, providers, or consortiums) monthly (usually by the 15th of the following month). The usage statistics are stored in an Excel file name "Supplier_yyyy_student's-name.xlsx" (where yyyy – is year). The Excel files have three tabs:

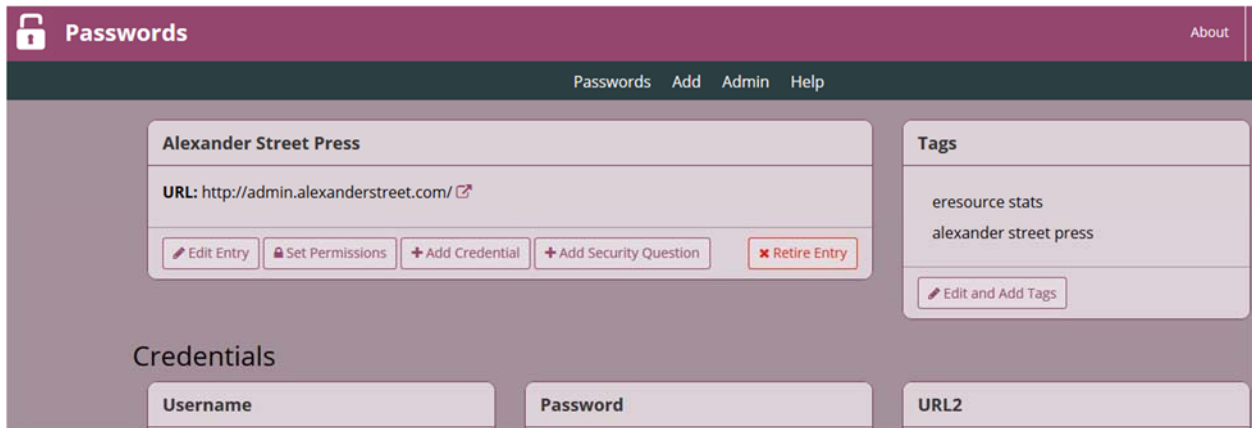
1. General Information
2. Either database, eBook, or video depending on the material supplied
3. Admin notes

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These tabs give information to the individual who collects the usage statistics, allows a place to store them, and explains any nuances that come when balancing the yearly numbers.

General Information Tab

The general information tab in most cases gives a URL to a custom password application created by Benner Library. The password application allows for secure credential information. The URL, stored in the password application, points to the website where the usage statistics are retrieved.



(Alford, Johnston, & Marcukaitis, 2017)

If there is not a URL to the password application, an email address is provided with instructions for sending an email to receive the usage statistic. The general information tab also contains systematic directions on retrieving the usage statistics for each supplier. Then it explains how the data retrieved should be manipulated and entered into the second tab (database, eBook, or video) of the spreadsheet.

Directions			
1	Login using username and password.		
2	Report Type: COUNTER		
3	Report: MR1		
4	Choose date range and record as fulltext .		
5	Report Type: COUNTER		
6	Report: DB1		
7	Choose date range and record "Regular Searches" as searches		

(Johnston & Marcukaitis, 2014b)

In addition, this tab contains documentation for the administration (including the Informatics stats student leader) on how to pull the yearly statistics from the supplier. It also, explains how to ensure that the monthly stats are accurate and what to do if not. Usually, when the yearly statistics do not balance to the monthly data, the individual assigned to the supplier is required to go back and check each month on the resource that is off.

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Balancer:
At the END OF A YEAR when the chart is filled:

1. Run the statistics (at the company's site) for that year
2. Record them in Balance columns: AI & AJ
3. Paste the final stats (chart, spreadsheet or screenshot) in a new tab and label it the previous year with anything additional needed for clarity.
- 4a. If every cell turns green move it to the "Balanced" folder.

OR

- 4b. If a cell does not turn green then there is an error and the mistake needs to be located and corrected by that Supplier's stats "owner", then rejected by the "balancer" from #3. To begin this process, the balancer should move the "unbalanced" file into Needs Revision folder and contact the "owner."

(Johnston & Marcukaitis, 2014b)

Second Tab (database, eBook, or video)

The second tab (database, eBook, or video) contains the list of each item provided by the supplier in the first column. Across the top, each month is divided into two columns: searches and full-text. If the data is not available for a listed item, then an 'x' is entered in that cell. This allows others to know that the information was retrieved and nothing was returned as opposed to a null value. It is important to emphasize that the 'x' is only used when information is not returned and does not replace a zero. This is vital for accountability and accuracy to analyzing statistical data. There are many times an item is started in the middle of a year or cancelled during the year. There are also times, when a supplier only has usage statistics for full-text, but not searches or vice versa.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Alexander Street Press Videos 2017														
2															
3															
			Jan-17		Feb-17		Mar-17		Apr-17		May-17		Jun-17		
4			Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	
5	Videos		53	23	52	166	67	38	32	30	41	31	28	31	
6	Classical Music in Video		20	6	10	4	4	1	4	2	12	1	18	4	
7	American History in Video		3	3	1	17	0	0	0	0	0	0	0	0	
8	Art and Architecture Video		6	1	8	3	14	3	4	14	6	24	2	2	
9	Criminal Justice and Public Safety in Video		6	5	12	5	14	5	8	4	4	x	0	x	
10	Filmmakers Library Online		10	2	14	4	20	9	8	2	8	x	2	1	
11	Sports Medicine and Exercise Science in Video		2	3	3	3	15	16	4	8	7	1	2	2	
12	Theatre in Video		6	3	4	130	0	4	4	0	4	5	4	22	
13	World History in Video		0	x	0	x	0	x	0	x	0	x	0	x	
14															

(Johnston & Marcukaitis, 2014b)

Admin Notes Tab

The admin notes tab contains a plethora of information for the administration and the student leader. It may have notes about exceptions for specific databases within that supplier. Some files contain definition of unusual terms and/or a history of specific issues with their resolution for future reference.

There are also nuances, like when trying to balance and the yearly numbers are far greater than the monthly totals. Another issue could be when pulling the monthly entries, the last day of the month

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was used and that supplier needed the first day of the next month as the end date which could hinder the balancing process.

Year End Process

A cross balance happens every six months by the student leader, January - June, July - December, and the calendar year total. This allows the separation of the numbers needed for the fiscal year and the calendar year.

Alexander Street Press Videos 2017										
	Jan-June Totals		Jul-Dec Totals		Totals		Balance		Jan-June Balance	
	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext	Searches	Fulltext
Videos	273	319	16	58	289	377	0	0	273	319
Classical Music in Video	68	18	4	5	72	23			68	18
American History in Video	4	20	0	0	4	20			4	20
Art and Architecture Video	40	47	2	31	42	78			40	47
Criminal Justice and Public Safety in Video	44	19	0	0	44	19			44	19
Filmakers Library Online	62	18	6	6	68	24			62	18
Sports Medicine and Exercise Science in Video	33	33	4	3	37	36			33	33
Theatre in Video	22	164	0	13	22	177			22	164
World History in Video	0	0	0	0	0	0			0	0

(Johnston & Marcukaitis, 2014b)

At the time, the numbers are balanced and transferred to an overall spreadsheet. The overall spreadsheet has both a search and full-text worksheet for suppliers for cumulative years which shows trends.

	A	B	C	D	E	F	G	H
	Database	Provider	Format	2017 July - December	2017 January - June	2016-2017 School Year	2016 Calendar Year	2016 July - December
1	Searches Totals			11	927,376	1,930,956	1,965,999	1,003,580
3	ABC-CLIO EBook Collection	ABC Clio	eBooks		37	65	29	28
4	ABC-CLIO Databases	ABC Clio	databases		0	42	45	42
5	American History (Schools)	ABC Clio	databases		x	0	0	x
6	World History: Ancient and Medieval Eras	ABC Clio	databases		x	0	0	x
7	World History: The Modern Era (Schools)	ABC Clio	databases		x	x	x	x
8	Issues: Controversy and Society (Schools)	ABC Clio	databases		x	x	x	x
9	Ministry Matters	Abingdon Press	eBooks		x	0	0	N/A
10	Nutrition Care Manual	Academy of Nutri	eBooks		x	x	x	x
11	Sports Nutrition Care Manual	Academy of Nutri	eBooks		x	x	x	x
12	ACLS Humanities E-Books	ACLS	eBooks		69	124	136	55
13	Harper's Weekly	Alexander Street	databases		x	x	x	x
14	Black Thought and Culture	Alexander Street	databases		11	18	33	7
15	Counseling and Psychotherapy Transcripts,	Alexander Street	databases		0	1	205	1
16	Women and Social Movements Scholar's Ed	Alexander Street	databases		183	205	72	22
17	American History in Video	Alexander Street	videos		4	46	94	42

(Johnston & Marcukaitis, 2014a)

In January, a new copy of each eResource Excel file is created in a new year's folder. The general information and admin notes tabs are reviewed for accuracy and should not need much updating. However, the second tab gets all data cleared out, making sure not to affect totals and subtotals.

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The months across the top are updated with the new year as well as cell A1. It is important to have the year in many places to ensure the staff are processing on the correct spreadsheet. The balance section data is also cleared, making sure not to mess with the formatting of the cells to ensure balancing shows correctly.

Compare SUSHI to Manual Process

Several items were considered when comparing SUSHI to the manual process: the amount of time various tasks took (steps not physical time), the accuracy of the statistics that are being collected, how the statistical information can be accessed, the security behind each of the processes, and how disasters can be handled. For the most part, it was comparing apples to apples, but some of the comparisons below will demonstrate differences in the processes. It is clear that both have advantages and disadvantages.

Comparing Time

When comparing time commitments, one needs to include the time it takes to set up new suppliers, pull monthly statistics, changes to resources, and balancing to ensure accuracy of the statistical data.

	SUSHI CORAL (OSS or Custom)	Manual Spreadsheet
Setting up new supplier		
Determine if capable	X	X
Flip switch at supplier <i>(if needed)</i>	S	
Get credentials	X	X
Setup in an application	X	
Determine how to pull <i>(if manual or cannot pull SUSHI)</i>		
URL/email	S	X
Procedure to pull	S	X
Key statistics into an application	S	
Create a spreadsheet <i>(from template)</i>		
Document pull procedure		X
Enter all resources for the supplier		X

What is the Best Practice to Accurately Collect, Review, and Present eResources Data that is Utilized by Libraries in a University Setting?

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	SUSHI <i>continued</i>	Manual <i>continued</i>
Ensure totals will calculate correctly		X
Setup balancing for 6 month & yearly check	S	X
Assign staff member to pull monthly stats	S	X
Pulling Monthly Statistics		
Review per download records	X	X
Upload to application for usage access	X	
Website for supplier or email	S	X
Retrieve proper files	S	X
Manipulate the records	S	X
Enter provider data under supplier one by one	S	X
Changes to resources for a supplier		
Updated with monthly upload	X	
if add		
Create a new row in supplier spreadsheet		X
Ensure totals will calculate correctly		X
if update		
Update publisher information		X
if remove		
Keep record and continue to 'x' for no data		X
Balancing		
Website for supplier or email		X
Retrieve 6 month or yearly file		X
Manipulate the file		X
Enter data for balancing		X
if out of balance		
Determine where/how		X
Correct issue		X
Once balanced reenter data in Overall spreadsheet		X
Key		
s only needed some of the times	10	-
x item is needed	6	25

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Accuracy of the Usage Statistics

The accuracy of usage statistics is crucial. With SUSHI being an automatic process, the computer never gets tired and can keep doing the mundane task without making mistakes as long as the program has no errors or bugs. On the other hand, humans doing the manual process sometimes get complacent and are bound to make mistakes which makes a system for balancing essential. There is more room for error every time humans touch the data. For example, when transferring the balanced data to the overall spreadsheet mistakes can occur. Thus, the data from SUSHI should be more accurate, although it should not go unquestioned. This is why outliers that flag conditioned data are essential in an automated process, something that CORAL provides.

The Access of Statistical Data

To access the current manual statistics one needs to be located on campus and have access to the specific drive where the data is stored. If off campus access is needed, there can be a copy of the original file to email or take with whomever needs access. With multiple copies, files are easily overwritten and updated data can be lost. Whereas custom or most OSS applications most likely have the ability for anyone with credentials to access the usage statistical data from any internet enabled computer/device.

Security behind the Processes

SUSHI and most custom or OSS applications have login authentication that prevents access to unauthorized users and only needs a few individuals to handle. There is not a need to add data so most access can be read only. In the manual process, selected individuals have access to the credentials through the current password application for the supplier's administrator site. Often this access is not just limited to statistics collection so other settings can be changed (accidentally or intentionally). Multiple people have access to the numbers in the yearly statistics that are stored in Excel files with editing capability. This is a potential security risk.

Backup Plans

The manual process has a couple issues that can be handled with a restore from backup (as long as it is being backed up). This might be needed if the file was accidentally deleted or corrupted. While with CORAL utilizing SUSHI, a database restore would be needed (as long as it is being backed up).

If access to the supplier site goes down when retrieving statistics in the manual process the collector would just wait and try again at a later date. Depending on the custom or OSS application, scheduling may be handled differently. A good application would be set to auto retry to retrieve that data upon failure.

If someone is no longer available to do the statistics on the manual side another staff member would be able to take over with the general information tab as a guide. If you lost the staff member in charge of the SUSHI imports, a different staff member could easily monitor the data collection. Then they would have to import the data into the custom or OSS application. The manual process would always be the backup plan for the SUSHI process and in some cases, where the supplier does not have SUSHI capabilities.

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Conclusion

The obvious answer would be to switch to the SUSHI pulling method. The time and accuracy by which the information can be retrieved outweighs that of the manual process. However, there are still some issues that could hinder the choice to switch. One hindrance is having the ability to handle the SUSHI usage statistics files that are returned. There is the need to still have a manual process as not all suppliers are SUSHI compliant. Another deterrent made clear in this study, is the inability of CORAL to handle all the SUSHI reports needed. CORAL can only handle JR1 reports and overrides data each time it is pulled. With CORAL being an OSS, modifications could be made to handle those issues. Another option would be to look for or write a different application to handle what SUSHI returns.

Writing or searching for an additional application is very time consuming and needs to be well organized. Currently, for the Benner Library Informatics Department, time is something that is wrapped up in several other projects and pressing needs, so the recommendation, would be to stay with the current manual process, while keeping in mind the abilities of SUSHI. When time allows the project of handling the returned data from SUSHI would be worth the effort, and then the implementation of SUSHI could be reconsidered.

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