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Implementing an Electronic Resource Management System: Brigham Young University's Experience

Jared Howland & Thomas Wright

Abstract

We discuss the electronic resource management (ERM) implementation process at Brigham Young University (BYU) and its generalized implications for other institutions. A chronological description of decision-making and steps in the implementation process with corresponding discoveries and benefits is outlined. We conclude that implementing an ERM takes a lot of planning, forethought and effort but implementation has been very beneficial in helping BYU manage its electronic resource collections. The literature has described various ERM systems, difficulties in handling electronic resources and the ERMI standard but relatively little has been written about the practical side of implementing an ERM. The account of an ERM implementation should be helpful to libraries considering implementing an ERM system of their own.

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Introduction

In the late 1990's a scenario played out all too often within acquisitions departments across the country. Speaking from our own experience at Brigham Young University (BYU), the serials department would receive a renewal notice for an electronic resource that we were unaware of and that was not available through any venue for our patrons. Apart from the embarrassment of the moment, it brought to the fore the need to be able to track, maintain, and access resources that did not reside in our institution, or for that matter, the physical world.

Literature Review

The Electronic Resource Management Initiative (ERMI) Report (2004) stated what had become obvious to librarians, that “[a]s libraries have worked to incorporate electronic resources into their collections, services, and operations, most of them have found that their existing integrated library systems (ILSs) are not capable of supporting these new resources” (Jewell et al. 2004).

Librarians have been calling for a means to support these resources for some time. Duranceau (2000a, 2000b) and Hennig (2002) have contributed articles discussing license tracking and access to electronic journals and databases. Jewell's 2001 report sponsored by the Digital Library Federation (DLF) discovered that a number of institutions had begun to build “homegrown” systems in an attempt to meet these needs. Some of these systems created alphabetical lists of databases and journals, some tracked license terms and others kept track of access and technical information as well as contact persons (Jewell, 2001). This phenomenon was really the emergence of the electronic resource management (ERM) system.

Jewell's report of 2001 led to a workshop jointly sponsored by the DLF and the National Information Standards Organization (NISO), which formed a steering committee for ERMI in May 2002. By 2004 the final draft of the steering committee's findings was published which included standards and data elements that the committee recommended as part of any ERM system. These ERM systems are defined as “[t]ools for managing the license agreements, related administrative information, and internal processes associated with collections of licensed electronic resources” (Digital Library Federation, 2006). The market for ERM systems really began with ERMI's efforts and vendors' willingness to implement the suggestions created by the committee. Additionally, the technology to create and manage ERM systems developed enough during this time to allow librarians to envision such systems.

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To better understand our ERM implementation, some information about the Harold B. Lee Library (HBLL) at BYU might be helpful. BYU's HBLL is an Association of Research Libraries (ARL) member library and serves just over 31,000 full time students, 10% of whom are graduate students. The HBLL has about 300 licensed electronic resources that are shared with BYU's Howard W. Hunter Law Library. Additionally, BYU shares a board of directors with BYU Idaho, BYU Hawaii and LDS Business College. Many of the electronic resource licenses are negotiated and coordinated through the HBLL. The number of resources, combined with the complicated purchase arrangements, required a better way to manage our electronic resources. Like other universities, we had created our own system, System for Online Resource Tracking (SORT), based on our most pressing needs. As described in Jewell's 2001 report, BYU's system was limited in that it tracked contact and technical information but not historical pricing or consortial arrangements. As time went on, it became clear there were a growing number of functions that needed to be addressed. Like other institutions, we were faced with the proposition of providing resources for continual upgrades and maintenance for this system.

So it was in this historical context that representatives from BYU attended the 2004 Charleston Conference whose theme was "All the World's a Serial." One of the sessions previewed the ERMI report and detailed the elements of a working ERM system. Coincident to this session were reports of prospective systems coming online. One system that was already beyond beta was "Gold Rush" from the Colorado Alliance of Research Libraries (Coalliance). We were intrigued enough by their functionality and pricing to follow up with an invitation to visit our campus and give us a demonstration of their product.

Gold Rush

During the course of the Coalliance's visit, both strengths and weaknesses of their system began to emerge. The most important strength for BYU was they were among the first to market with a workable ERM system. Additionally, the price and feature set was a good match to our budget and needs. Other strengths seemed to be their willingness to collaborate with participating libraries on improving the system and the fact that Gold Rush bundled a journals A-Z list and an OpenURL link resolver with their ERM.

As with any system, weaknesses accompany strengths. In the case of Gold Rush, weaknesses included less flexibility for customization and less user-friendly functionality than subsequent systems. Gold Rush is also a smaller company and therefore has fewer resources to address problems or make desired enhancements. However, after weighing the costs and benefits, we decided to purchase Gold Rush as our ERM.

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Selection of an ERM

Based on our experience, there are several considerations to be made before the purchase of an ERM. ERM systems are offered with a wide range of features and at myriad price points. However, price is not always directly proportional to functionality nor is it always directly related to the feature set. The product chosen should be based on the best possible match of needed features to available features. The limiting factor in a purchase decision, as always, being the price of the product and the available budget.

Without proper analysis of the status quo, it is possible that resources will be incorrectly allocated on a suboptimal ERM. Possible questions to lead you in the right direction include the following:

1. How am I currently managing electronic resources?
2. What are the limitations of the current system?
3. What major functionalities are required to improve staff and user experience?

There are several key features of an ERM that, in retrospect, we would now consider more closely. These include accuracy of the knowledgebase, importance of integration into the library's ILS, price, and flexibility of the ERM. There are no right answers to these questions and every library will likely derive different answers depending on its unique needs.

The knowledgebase, which is a database that includes records for a library's current aggregator journal holdings, is the critical component on which vendors build their journal finders, link resolvers, federated search engines and their ERM systems. The accuracy and frequency of updates are important to ensure that the information entered into the ERM is the most current. Additionally, a good knowledgebase will make it easier to enter information by pre-filling some of the information about an electronic resource.

ERM systems are available as stand-alone modules or blended into a library's ILS. The answer to whether one would want an integrated or independent ERM depends largely on the current ILS in place and the budget one is willing to allocate for an ERM. However, as ILS vendors begin to catch up with the demand for ERM systems an integrated solution will be more sustainable. Integrating with the public interface is seamless and the library staff does not have to learn a new system when an ERM is included in an ILS.

The final consideration in purchasing an ERM is the flexibility allowed for customization both on the staff and public side. Custom data elements that can be added to the ERM easily are highly desirable. The ability to designate what fields display to the public and the ability to customize the public interface are critical features.

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ERM systems serve a wide audience including the acquisitions department, subject selectors, interlibrary loan, course reserve, library administration, university copyright licensing, course packets and, depending on the system, library patrons. Because of the broad audience it is essential that representatives for these groups be involved to one degree or another throughout the implementation process. BYU created an implementation team that involved many of these individuals and had conversations with others, not included on the team, to discuss their ideas for implementation. This ensured that all interested and pertinent parties had a voice in how the system would serve them individually.

Implementation Strategy

Implementing an ERM is a protracted process that requires extensive planning and foresight. Establishing a reasonable timeline and appropriate workflows should be the first step towards implementation. We created a workflow for the short-term to enable us to quickly enter information into the system followed later by a workflow to maintain information in the ERM.

The timeline for implementing our ERM was largely dictated by the information we were able to gather about our electronic resources. We had files on almost every resource but each was in various stages of completeness. To facilitate the completion of comprehensive records, and to control the flow of information into the ERM, we decided to fully implement the system over the course of one year rather than a shorter timeframe.

During this one-year process we allowed our short-term workflow to guide us through the initial stages of implementation. We created *base records* ([Table I](#)) for all resources for which we could find files and then waited for invoices to start arriving. Once an invoice was received, we took the requisite time to complete the record. This process ensured that we entered correct information for resources to which we currently subscribe and those for which we no longer maintained a subscription. Additionally, this strategy allowed us to distribute the workload over a reasonable period of time.

Having completed this implementation stage, we needed to address the ongoing workflow for adding and maintaining records. Surprisingly this has been no small task. Our desire is to create a workflow where a distributed network of staff can add and maintain ERM records. Implementing an ERM will most certainly change workflows and libraries contemplating an ERM should be aware of this eventuality.

Populating the ERM

A five-step approach was taken to add records to the ERM:

1. Deciding on *base* and *minimum* ERM record standards
2. Establishing standards for entering information
3. Reviewing all files (paper, electronic, email)

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4. Entering base ERM record for each resource
5. Requiring a minimum ERM record for resources that had an invoice

We set standards to establish what constituted a *base record* as well as what constituted a *minimum record*. We boiled down the 300 data elements created by ERMI to the nuts and bolts of what was essential for our institution ([Table I](#)). This permitted us to focus our efforts and create more accurate records.

We then created a standard way of entering information into our ERM. This included standardized notes, abbreviations, and terminology. This made for more consistent records that were more easily searched and read. The creation of these standards did not end at this point but rather continued to evolve as needs arose.

After we reached agreement on these standards, we began to review all of our files to find the needed information to be included in the base ERM record. If more information was readily available it was also entered at this time. Information that was not readily available was not entered until an invoice was received. Upon receipt of the invoice, we found and collected the missing information and upgraded a *base record* to a *minimum record*. Most of the time we entered information beyond a *minimum record* but having the standard in place allowed us to focus on essential data elements. This information was most often found in old emails, by contacting the vendor directly or tapping into institutional knowledge.

Challenges/Benefits

Regardless of the amount of planning, implementing an ERM is never completed without overcoming some challenges. In our case, this included finding all the pertinent information to record in the ERM and mapping information to data elements available in our ERM. Information about our electronic resources was housed in numerous locations throughout the library and many times nonexistent. Populating our ERM helped us to consolidate these disparately located records and begin to better manage our electronic collection. Also, mapping information to data elements in our ERM was occasionally a challenge. The ERMI recommendations are excellent but will never meet the unique needs at every institution. An example of the mapping problem at BYU can be found by looking at the way we organize our electronic resource collections. A “sponsor” is assigned to each electronic resource, which allows us to distribute responsibility for our numerous resources across our library faculty and aids in the ongoing evaluation of these resources. By including sponsor information in our ERM, we were able to facilitate the process of ongoing evaluation ([Figure 1](#)). What was initially a challenge turned out to be an asset in that we now have a system in place to periodically evaluate our resources and a way to assign responsibility for that evaluation.

Coordinating purchases and ongoing evaluation among our consortia members has always been a significant challenge. Because Gold Rush was developed by the Colorado Alliance, consortial

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issues were taken into consideration in its development. We were able to exploit the consortial features to track electronic resources for each BYU campus ([Figure 2](#)). This has been extremely beneficial.

Conclusion

It is unlikely that a resource renewal notice will catch us by surprise at BYU these days. The advantages of ERM systems are clearly evidenced by the number of ILS vendors that now offer add on ERM modules. Implementing an ERM is a task that demands forethought and careful planning but the benefits are significant. In this rapidly evolving environment of digital products, it is essential to be able to consolidate information about and access to our numerous resources. The scope and necessity of Electronic Resource Management systems will only increase as digital content replaces print. We see the development and use of ERM systems as a major development in library collection development and technical services.

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Table I

Table I: Information constituting a base and minimum ERM record at BYU. These do not directly correlate with data elements but are simply the critical pieces of information that we then mapped to specific data elements in our ERM.

<i>Base Record</i>	<i>Minimum Record</i>
Resource name	Base record plus:
Access URL	Purchase type and institution(s) involved (<i>i.e.</i> consortium vs. individual)
Vendor contact	Start/end date
Site contact	Cost information
	Administrator and usage statistics login
	OpenURL
	License terms:
	Authorized users definition
	Fair use clause indicator
	Digitally copy
	Print copy
	Scholarly sharing
	Interlibrary loan
	Course reserve
	Electronic link
	Course pack
	Remote access
	Concurrent user
	Other use restriction note
	Perpetual access
Archiving	
Confidentiality of user information indicator	

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Figure 1

Figure 1: Tying sponsor information to a specific resource in BYU's ERM

Goto: [Basics](#) | [Dates/Fees](#) | [Cost Details](#) | [Stats](#) | [Access](#) | [Terms](#) | [Contacts](#) | [Top](#)

Contact Information ?

Vendor Contacts

Contact Type	Name	Primary Phone	Email	
Account Rep:	John Doe	111-222-4444	john_doe@sample.com	<input type="button" value="Add"/> <input type="button" value="Details"/> <input type="button" value="Delete"/>

Site Contacts

Contact Type	Name	Primary Phone	Email	
Collection Development:	Jane Doe	111-222-3333	jane_doe@byu.edu	<input type="button" value="Add"/> <input type="button" value="Details"/> <input type="button" value="Delete"/>

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Figure 2

Figure 2: Managing consortial purchases

Goto: [Basics](#) | [Dates/Fees](#) | [Cost Details](#) | [Stats](#) | [Access](#) | [Terms](#) | [Contacts](#) | [Top](#)

Subscription Basics		Edit	?
Vendor:	SAMPLE VENDOR	Resource Type:	fulltext
Vendor Role:	content	Resource Medium:	website
Product:	SAMPLE DATABASE	Resource File Type:	
Product Type:	Database	Bundled Package:	N
Libraries:	BYP,BYI,BYH,LDSBC	Pick-and-Choose:	N
Group Purchase:	Y	MARC Available:	N
Group:	GWLA	Subscription Notes (site):	
Date Accessible:	2006-06-22		
Subscription Status:	active		
Publisher:	John Doe		
Jobber:			
Simultaneous Users:	Unlimited		
Contract URL:			

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