Literature of Acquisitions in Review, 2004–7

By Barbara S. Dunham and Trisha L. Davis

This review covers the literature of acquisitions from 2004 through 2007. The purchase of electronic resources continued to grow, especially for e-journals. E-books gained more attention with a variety of pricing models emerging, many of which were similar to print purchase plans or a modification of e-serial plans. The electronic resource management (ERM) of subscriptions and licensing became a major concern as the acquisition of these items continued to grow. Many libraries developed local ERM applications while vendors began developing commercial ERM systems. The Digital Library Federation (DLF) Electronic Resources Management Initiative (ERMI) emerged as a major step in the development for ERM system standards. Many libraries expressed dissatisfaction with some of the new pricing models for e-journals, especially the Big Deal packages, as libraries were caught between budget reductions, price increases, and complex license agreement terms. Budget and the allocation of funds remained a frequent topic in the literature. With the transition from print to electronic versions, acquisitions staff required more support and new resources. Workflows changed as acquisition units and technical services departments reorganized to accommodate the growth of electronic resources.

This literature of acquisitions review is the continuation of the authors' review covering the literature published from 1996 through 2003.[1] In the previous review, technology and the Internet were the key themes that brought changes to acquisitions, business practices, and communications. For 2004–7, budgets and budget allocation were a continuing concern, with the literature focusing on the complexity and variability of pricing models. The most significant new topic was the management of electronic resources. As patron demand for these resources grew rapidly, a large portion of library materials budgets was spent acquiring them. The literature revealed that acquiring electronic resources was simpler than managing them effectively.

To identify the significant acquisitions literature published from 2004 through 2007, searches were made through Library Literature and Information Science Full Text and Library, Information Science and Technology Abstracts with Full Text databases for articles and books. In addition, searches using more specific terms related to acquisitions were made of selected library journals. Citations and abstracts were reviewed for possible inclusion in the review. Searches were limited to scholarly journal articles, conference proceedings, reports, and books in English. Every attempt was made to find literature relating to any aspect of acquisitions; however, the authors concede that some works may have been overlooked. For those articles selected, the papers were retrieved and reviewed in detail. The selected articles then were grouped by topics to establish an outline for presentation. For those papers that bridged more than one topic, an effort was made to put them under the topic that was most prominent. Some literature fell outside the major themes identified or was peripheral to the topics; these were excluded from the review.

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Budgeting and Allocating Funds

Fund allocation became a critical part of budgeting and acquisitions work as budgets shrank and material costs rose. Most libraries used a local method to allocate the materials budget across subject areas. Many allocation formulas were based on historical variables and annual adjustments that no longer fit the needs of libraries' current acquisitions.

Wu and Shelfer performed a formula fitness study on their library's budget allocation formula to determine its fit.[2] The authors' research indicated that the traditional factors used in building a fund allocation formula were not always consistent because of changes in the source of the data, availability of data, and weights given to the variables. Wu and Shelfer recommended that libraries perform a formula fitness review regularly as a part of their self-study. At Portland State, the old method no longer provided for a balanced collection and failed to align the materials budget with the university's priorities.[3] Weston revised the formula using a complex set of variables to determine the potential demand on their library's collection for specific subject areas. Because the new formula would result in severe cuts from the previous allocations, 70 percent of the budget was allocated on the basis of the previous formula. Walters, in an article that received the 2008 Best of *LRTS* Award, presented an allocation method for academic libraries that used current, historical, or hypothetical allocations to generate a formula.[4] In a five-step process, the regression-based method assigned weight to a set of variables to provide results that were systematic and unbiased.

While most discussion of fund allocation focused on specific approaches for allocating funds, Canepi's study focused on determining best practices in academic libraries.[5] Her statistical analysis revealed that enrollment, cost of materials, use, and number of faculty were the most frequently used formula elements. Other often-used elements were course offerings, academic programs, research budget or output, and faculty publication.

Smith and Langenkamp discussed an allocation formula for a public library based on circulation data.[6] The authors calculated a budgeting index by multiplying the circulation percentage for a subject area by the average cost of an item. The index was used to determine the number of items that could be purchased from the budget for each subject area. Their method allowed for changes in allocations for specific subject areas on the basis of current collection management goals, pricing changes in subject areas for collection development, and static budget amounts. At Auburn University at Montgomery (AUM) Library, Bailey, Lessels, and Best tested using Universal Borrowing data as a factor in determining their monographic budget allocations across the University's schools.[7] Universal Borrowing is an interlibrary borrowing feature of the Voyager integrated library system (ILS) that allows patrons to borrow and return materials from any consortial member. The results of the trial revealed that demand could be matched to AUM's monographic collection across the university. The schools with graduate programs showed the most demand. The authors determined that the data supported additional book purchases. The monographic budget was increased to support the schools with the greatest borrowing activities.

Anderson discussed several formulas of varying complexity for allocating the costs of electronic resources to the members of an academic consortium.[8] Size and type of institution, number of students, size of budget, current use, and current subscription price were considered potential factors in cost-allocation methods. He stressed fairness in the cost-allocation methods and the use of equitable formulas that were clearly understandable.

Clendenning, Martin, and McKenzie examined how libraries managed the relationship between fund encumbrances and expenditures.[9] Various strategies specific to monographs, serials, and standing order acquisitions were studied. The authors' discussion also included insights on the use of ILSs for managing funds, descriptions of materials ordered on different types of funds, and three fund case studies.

At the 2006 Charleston Conference, Moore-Jansen, Walker, and Williams explained the development of a fund tree, a computer-based accounting system at Wichita State University Libraries.[10] The tree was designed to meet the reporting needs of the library administration, budget officer, collection development coordinators, and acquisition managers. The fund accounting tree utilized a combination of letter mnemonics and a number to form a fund code. The fund code could be used to the track the funds allocated by discipline.

A useful manual about library budgets is *Managing Budgets and Finances: A How-to-Do It Manual for Librarians and Informational Professionals* by Hallam and Dalston.[11] Their manual covers a broad range of topics on budget and finance. In another source, *Collection Management for Youth*, Hughes-Hassell and Mancall describe the budgeting process for a school media center in their chapter, "Budgeting for Maximum Impact on Learning."[12]

Johnson's book, *Fundamentals of Collection Development & Management*, is intended for students in librarianship or those new to collection development and management.[13] The chapter "Policy, Planning, and Budgets" covers library budgets, materials budget, funds, and fund allocations. In the chapter "Electronic Resources," Johnson describes electronic resources and covers budget and legal issues associated with their acquisition.

Evans and Saponaro's text, *Developing Library and Information Center Collections*, covers collection development for all types of libraries.[14] Separate chapters

address acquisitions, vendors and distributors, and fiscal management.

Pricing Models

As electronic resources emerged, pricing models became more complex. Publishers and providers developed many new models for electronic journals and e-books. The Big Deal model for electronic journals was the most often discussed in the literature. A Big Deal is defined by Frazier as "a comprehensive licensing agreement in which a library or library consortium agrees to buy electronic access to all or a large portion of a publisher's journals for a cost based on expenditures for journals already subscribed to by the institution(s) plus an access fee."[15] Usually the agreement limits the cancellation of subscriptions and includes an annual price increase.

Gerhard described pricing models used for academic electronic journals and other digital formats and examined the variables used in pricing models.[16] She found nine variables that could be combined into a seemingly unending number of pricing options. Gerhard also found that the variety of pricing models provided some formulas that worked in favor of libraries of a certain type and size while other pricing models disadvantaged some libraries. Some formulas also worked better for different types of products depending on content and use.

Hahn took an in-depth look at tiered pricing, in which smaller institutions are assessed a lower subscription price than larger ones.[17] By performing a sensitivity analysis, she found that increases in the subscription price for larger institutions (i.e., those in the top tier) ranged from 7 to 257 percent while institutions in the bottom tiers experienced increases of 9 to 88 percent. Under some models a lower tier could receive a decrease. Hahn believed that the increase in subscriptions costs could be substantial for the largest institutions. Schaffner, Luther, and Ivins described the collaborative effort Project MUSE made to develop new pricing for their online journals.[18] Project Muse replaced the consortial model based on number of participating institutions with one based on the Carnegie Class and use. The pricing tiers for academic libraries were expanded under the new model.

Commissioned by the Journals Working Group of the United Kingdom's Joint Information Systems Committee, Look, Sparks, and Henderson researched what librarians and publisher thought about existing pricing models and proposed new models.[19] Librarians and publishers were interviewed to understand current models' strengths and weakness. Views about the Big Deal packages varied by size or focus of an institution, but some broad patterns emerged. The authors found that Big Deal packages squeezed out other purchases, the bundled titles were not always the right ones for a library, and heavy collection penalties made adjusting collections difficult. Universities founded after 1992 with fewer journals favored Big Deal packages but were concerned about future affordability. None of the proposed new models (e.g., pay-per-view, national license, core plus peripheral, open access models) were universally accepted. The publishers were consistent on needing to maintain current levels of profitability.

At the 2005 North American Serials Interest Group conference, Frazier and Ebert discussed the Big Deals.[20] Frazier focused on issues related to budget. With an annual cost increase each year, he considered Big Deals unsustainable because budgets would be unable to keep pace with the increasing costs of journals. Frazier focused on journal cost-effectiveness for purchases. Ebert looked at the Big Deal from a consortial perspective. Big Deals allowed consortial members to reduce duplication and increase the number of unique titles. Because unused titles could be an issue, she noted that the consortium monitored the use of bundled titles and considered 85 percent of the titles used acceptable.

Gatten and Sanville discussed the merits of the Big Deal from the OhioLINK consortial perspective.[21] They defined Big Deal as "the subscription and purchase of full sets of publisher's journals in electronic format and the provision of access to member institutions."[22] Because the financial commitment of a Big Deal could present challenges to institutions when budgets are static or shrinking, an incremental reduction of content and related annual costs were negotiated in the license agreements with vendors. The authors questioned if patterns of use across the members would allow for a title-by-title retreat without disenfranchising one or more members. Their findings supported the concept that a retreat based on the ranking of articles downloaded across members would be a workable approach for reducing content and costs.

Hellriegel and Van Wonterghem examined electronic journal packages and their effect on library budgets and consortia purchases.[23] They discussed the development of package deals, the effect of their increased costs when budgets decrease, issues associated with cancellations when involved in Big Deal license agreements, and the effect on cost by publisher mergers or the acquisition of publishers by other enterprises. They also examined the possibility of using document supply in lieu of renewing a package deal, but found that it would not be practical. Also, Jasper experienced problems with the Big Deal packages and consortial purchasing agreements when he was faced with a large budget cut.[24] He found one publisher that would allow the cancellation of some electronic journals, but, with another publisher, he would lose access to a large number of other titles and exclusion from the consortium. Other publishers

limited cancellations to a stated percentage each year. Jasper noted that the complexity of online subscriptions combined with print subscriptions and of package deals arranged directly with vendor and through the consortium made cancelling electronic journals difficult.

Edlin and Rubinfeld examined Big Deal agreements from a legal perspective.[25] The authors discussed the growth and make-up of Big Deals, their pricing ties to print subscriptions, the issues surrounding cancellations, the effect on the library budget, and potential antitrust issues. They also examined the economic effects of Big Deals on the publishing world and reflected on issues surrounding exclusion and monopoly.

In 2005 the Association of Research Libraries (ARL) surveyed its members about large publisher bundles.[26] The survey focused on the five largest publishers. The most common reason for purchasing bundles was that the content and access were a good return on investment. One feature of the licensing was a restriction on the cancellation of print titles. Some members reported they could cancel a small percentage while others reported bans on cancellations. "Libraries reported an average satisfaction rating of 3.4 (on a 5-point scale) for the pricing of their first contract with any given publisher" for Big Deals, with a slightly lower average for consecutive contracts.[27]

Hiott and Beasley provided a similar view of the importance of consortia in their study of two public libraries.[28] Houston Public Library relied on access to electronic journals and databases provided through TexShare. Forsyth County Public Library similarly relied on GALILEO, a virtual library of licensed and online research sites offered by the State of Georgia Board of Regents. Both libraries relied on their consortium for license negotiations, access maintenance, and use statistics reporting.

Acquisitions Work

From 2004 through 2007, budget challenges, vendor changes, and technological improvements also had a serious effect on many of the basic functions of acquisitions work. Approval plans became important again, not only to assure good selection within a subject area, but to bring efficiencies to the acquisitions work. Consortia began to show interest in shared collection development and acquisitions. With the move from print to online journals, major projects of print journal subscription cancellations were common.

Fenner took a comprehensive look at approval plans.[29] She noted that the efficiency of a plan depended upon the profile specifications and how well it was maintained to meet the library's needs. A title-by-title selection plan could be used either to supplement approval plans or to replace approval plans. Brush compared the circulation of books purchased on the engineering approval plan to the circulation of books in the engineering collection as a whole to determine the efficiency of a profile or whether the approval plan should be replaced by individual book ordering.[30] Books ordered on the plan were more heavily used, which warranted maintaining the approval plan. The data also revealed that electrical engineering books were not being ordered through the approval plan. The profile was adjusted to include them.

Boudewyns saw the use of approval plans for art as a way to free the art librarian for the significant amount of effort needed to support the acquisition of licensable digital image collection (LDIC).[31] She described LDICs as interactive systems that provided a mechanism for using digital images to create presentations and teaching materials. Lorenzen used her experience in developing an academic library art collection to illustrate the many changes in acquisitions due to new material formats and technological developments.[32] She described changes to the information needs and research practices of art students as they move beyond print to embrace the new digital technologies. Lorenzen also discussed recent changes to academic library acquisitions, such as the shift to digital formats, new approval plans that allow for ordering online, a focus on aggregator databases as an acquisitions source, and the effect of price increases on the budget.

Because of price and unfavorable currency exchange rates, Kamada utilized a slip selection approval plan profiled on Japanese language and linguistics to acquire resources for Japanese studies.[33] This plan allowed Kamada to stay within budget and spread the selection and ordering more evenly throughout the year. The slip selection plan was implemented for Japanese Buddhism and may be viable for small subject collections.

Curl and Zeoli described a consortial shared approval plan that was developed through a partnership with YBP for the Colleges of Ohio Networked System Online for Research and Teaching (CONSORT), which consists of Denison University, Kenyon College, Ohio Wesleyan University, and The College of Wooster.[34] The goal of the project was to develop a broad collection with less duplication while each college maintained its core collection. They were able to make broad use of the geographic and interdisciplinary tags supplied by the vendor for Asian and African material. Responsibility for various subject areas was shared between the CONSORT institutions on the basis of interest expressed. Fund codes were used to map responsibilities and institutions so that a shared YBP account could be established.

As a way to select vendors for the library's book approval plans, Horava established a concurrent book approval pilot project for analyzing the performance of selected vendors of choice rather than sending a request for a proposal.[35]

The vendors were reviewed on the same criteria applied to different subject disciplines. Mueller used a pilot approval plan as a way to move faculty from title-by-title selection to using approval plans.[36] The goals of the pilot were to free the faculty from selecting mainstream materials and allow more time for selecting unique materials.

Dali and Dilevko examined how Slavic and East European print materials were acquired by North American public and academic libraries.[37] They noted that many libraries used approval plans for Slavic collections, and many also acquired these materials through other means, such as book stores, book fairs, buying trips, exchanges, and gifts. Dali and Dilevko found that 51.4 percent of the surveyed libraries did not use approval plans.

As a way of augmenting traditional subject analysis, Mortimore applied the concept of "just-in-time" to acquisitions.[38] By combining interlibrary loan (ILL) data and circulation data by subject area, he determined which areas needed further development. Books were purchased rather than borrowed for these areas. The author proposed that just-in-time acquisitions often cost less than traditional ILL and contributed valuable items, which circulated frequently, to the collection.

With ongoing budget cuts or the need to fund electronic access, Gallagher, Bauer, and Dollar were faced with canceling some of their print titles.[39] Employing an evidence-based librarianship approach, they included data from a current periodical use study, SFX (Ex Libris' link resolver) statistics, photocopying statistics, bound journal shelving statistics, gate counts, and relevant statistics from several library associations to make the best decisions. Although no two data sets correlated directly, the results of their analyses were quite similar. The authors also noted similarities in the journal titles used most frequently and that a significant portion of the print collection was never used during the study. They concluded with a discussion of the complexities of canceling print subscriptions due to pricing models or contractual obligations to retain print.

Carey, Elfstrand, and Hijleh also used an evidence-based approach on a cancellation project to reduce journal expenditures by 15 percent.[40] Their goals were to minimize the effect on the collection and gain support from faculty by including a bibliographer from each department who determined the journals to be cancelled. The bibliographers were provided with the average cost of use over a two-year period. Accounting reports were generated on the progress made toward reaching the goal. A project management system, CORE Project Management, was used to help manage the project.

Farrell and Truitt addressed a common problem faced by acquisition librarians—the need to build and maintain complex vendor records within the acquisitions module of their ILS.[41] Their article received the 2004 Association for Library Collections and Technical Services Blackwell Scholarship Award. The authors examined the creation and content of the vendor record as an example of the need to standardize vendor-supplied acquisitions records. By analyzing the data needed to support acquisitions activities and tasks, key data elements needed in the vendor record were identified and the difficulty in keeping that data current was noted. The goal of the article was to encourage the development of electronic data interchange (EDI) standards by which vendors would supply information about themselves to their library customers.

Laskowski was concerned about the consequences of new technology and the availability of various media formats on the acquisitions process.[42] She described common problems such as determining the appropriate format to acquire, complex and confusing pricing schemes, the assurance of quality for long-term preservation, and the need to purchase compatible playback equipment.

Chapman's revised edition, *Managing Acquisitions in Library and Information Services*, is written primarily for library and information science students but is also a good resource for those new to acquisitions.[43] In this thin volume, Chapman covers the range of acquisition processes and online services.

Booksellers and Vendors

The Internet allowed booksellers, serial agents, and publishers to move their work online. Print catalogs disappeared as the online databases were more complete and current. Ordering systems moved online as did much of customer support. New Internet providers became serious competition to traditional library vendors. The inclusion of "Books and the Internet: Buying, Selling, and Libraries" as a theme at the 2004 Charleston Conference was indicative of the importance of the topic.[44]

Because the acquisition of out-of-print materials can be problematic and time consuming, Amsberry trialed outsourcing, which is the the searching, purchasing, and cataloging of out-of-print materials to a vendor.[45] The trial resulted in a high fulfillment rate, and the books received were in good condition, but receipt was slow compared to direct order from an online vendor. The cost per book was higher than if the book was ordered directly from an online vendor, but this increase was offset by savings in staff time. For libraries with small staffs, the results indicated that outsourcing could be a good alternative.

Holley and Ankem performed a comprehensive study on the effect of the Internet on the out-of-print book market.[46] They examined whether Internet use improved the availability of books that booksellers had difficulty finding in prior years and whether Internet use led to price decreases.

The results showed a high availability of items and a significant decline in prices. Holley and Ankem found that the distinction between in-print and out-of-print disappeared in terms of availability, out-of-print materials often cost less than when the items were first published, the purchase of monographs might be a viable substitute for ILL, and retrospective collections could be built more easily than in the past.

While studies have examined the availability of out-of-print materials, Levine-Clark examined online booksellers for purchasing in-print materials.[47] The author found that Amazon had more books available than either Abebooks or Alibris. Abebooks, however, offered the highest average discount, followed by Amazon and Alibris. The time from publication affected pricing or availability very little. Because of the efficiency of acquisition through approval plans, the author did not consider Amazon as a replacement method for that process. However, ordering from online booksellers was feasible for second or replacement copies or titles shipped on approval plans.

Orkiszewski tested Amazon as a possible library vendor.[48] He found that not all items were discounted by Amazon and that discounts varied over time. If all the books in the study had been ordered from Amazon, the total cost would have been higher. The study revealed that the library vendors could compete with Amazon's prices and provided services at a good value.

Lubiana and Gammon examined the European bookselling market and the movement toward electronic commerce.[49] They discussed book pricing and costs; availability; services (e.g., databases, online ordering and tracking, and online invoices); standards for payment transactions, such as EDI and Book Industry Standards and Communication; and sources for book acquisition.

The *Guide to Out-of Print Materials* by Tafuri, Seaberg, and Handman is an excellent resource for acquiring out-of-print materials of different types and serves as a quick reference resource.[50] The authors cover traditional methods of obtaining the materials as well as Internet resources.

Because budgets were shrinking, Lam stressed the need for a vendor-assessment system to determine which vendors offer the best quality and pricing.[51] She discussed how to establish a system and stressed that it should be comprehensive but user-friendly. The program should interface with the local library system to collect data and create spreadsheets for use in reporting key measurements. Gagnon looked at vendor relationships from a public library perspective.[52] He believed the key to successful library projects was a good relationship with vendors. While Gagnon considered the library's relationship with the vendor as an investment, he noted that vendors must take the time to understand the needs and issues of the library.

Moghaddam and Moballeghi analyzed a variety of digital content aggregators and placed them into three categories: content hosts such as Ovid and Highwire Press, gateways such as SwetsNet and Biosis, and full-text content providers such as ProQuest and EBSCO.[53] The authors described important advantages and disadvantages to using aggregator services in acquisitions. They stressed that as new types of aggregators evolve, librarians need to understand their roles in the electronic resources supply chain.

Two important sources focus on vendors and acquisitions. Much of Anderson's book, *Buying and Contracting for Resources and Services: A How-To-Do-It Manual for Librarians*, addresses vendor and good customer relationships.[54] The book also covers negotiating terms of service, license agreements, and the basics of approval plans. Ball's book, *Managing Suppliers and Partners for the Academic Library*, covers vendor relationships and outsourcing, but the examples are limited to British libraries.[55]

Flowers' article described the key points to consider in negotiations for different types of library materials.[56] She discussed implications for process differences, such as one-time rather than ongoing purchasing, the volume and nature of orders placed, and the type of vendor and how they do business. Flowers provided solid definitions for the different issues to be negotiated depending on the acquisition method.

Electronic Resources

The ARL tracked member expenditures on electronic resources between 1994–5 and 2001–2.[57] During that timeframe, expenditures for electronic resources grew by nearly 400 percent while total materials expenditures increased by only 61 percent. In another ARL report, Johnson and Luther examined libraries' moves to electronic-only journals.[58] They identified the need to control cost and the growing need for new content as two forces driving libraries to switch to electronic journals, which have resulted in an increase in discontinuing corresponding print editions. In a 2004–5 survey, the average ARL library spent 37 percent of its materials budget on electronic materials; some spent more than 50 percent.[59] Prabha analyzed journal subscription and format data for 2002–6.[60] She found that 5 percent of the subscriptions were available solely in electronic format in 2002. By 2006, 36 percent of journals were published solely in electronic format. Findings revealed that print subscriptions were canceled to move to online format to avoid a budget shortfall.

Eells studied the possible effects of a library's decision to eliminate print journals in favor of electronic access.[61] She provided a substantial background on the primary methods of electronic journal publication, subscription options, and pricing models. Eells summarized several major publishers'

approach to the relationship between publishing costs and subscription pricing. Wolf described common issues faced when moving from print to electronic-only subscriptions.[62] Using a case study of the acquisition processes at Cardiff University, he described the challenges of dealing with a wide range of different subscription models, including consortium options and publishers' Big Deals. Wolf outlined the steps needed to investigate these options and described how difficult and time-consuming that can be for acquisitions staff. He also discussed the challenges of managing the subscriptions over time.

Silberer and Bass discussed the effect of e-books on the ordering process.[63] In outlining the various ordering options, purchasing models, and distribution methods, the authors noted "there is no single source, option or strategy that is uniform for eBooks."[64] An extensive chart compared offerings and services of twelve popular e-book providers. The authors described the role of the serial agent in selling subscriptions to collections of e-books, whether by lease or by access on a permanent basis. Their description of the current digital rights management technology for e-books demonstrated the complexity of acquisition options. Mikkonen also discussed e-book purchase models for consortia.[64] The pricing models for purchasing single e-books were similar to the models for purchasing printed books. However, if the e-book was purchased as part of a collection, the price might have been higher depending on the number of simultaneous users. Other pricing options were based on a one-time purchase or ongoing access. She suggested that consortium acquisitions should be based on the simplest pricing model because complicated negotiations and managing the different pricings could easily nullify the savings. In examining licensing, Mikkonen found that the e-book agreements needed to be adapted to include perpetual access rights.

Conger's book, *Collaborative Electronic Resource Management: From Acquisitions to Assessment*, covers key topics associated with electronic resources.[66] Chapters 4 and 6 focus on budgeting, negotiating, and licensing.

Management of Electronic Resources

Electronic resource management (ERM) was a major topic of concern during this review period. With increased acquisitions of electronic resources and the need to license them as part of the purchase process came the need to manage all the details of pricing, licensing, and access. Initially, libraries developed their own local version of an ERM system, and commercial systems followed later.

Stefancu, Bloss, and Lambrecht described the manual methods used for ERM at the University of Illinois at Chicago Library and the development of a sophisticated ERM system called the Database of Library Licensed Electronic Resources (DOLLeR).[67] DOLLeR was designed to provide access to license agreements, a Web e-mail gateway, and reporting capabilities. The use of tables for provider, license, resource, subscription data, and information provided by Serials Solutions were central to the design of the database.

North Carolina State University Libraries also designed their own ERM system, E-Matrix.[68] Raschke and Goldsmith stated that the initial plan was to develop E-Matrix to manage databases, aggregated resources, and electronic journal packages. However, because their ILS could not effectively manage print or electronic subscriptions, the ERM system was expanded to handle them. Kennedy examined the development of locally developed ERM systems at MIT Libraries, Pennsylvania State University Libraries, and UCLA Libraries, and their reasons for developing them.[69]

Grover and Fons described Innovative's partnership with several academic libraries to develop a system that met their needs and that could be integrated into the local library system or function as a standalone system.[70] Galloway discussed the development, implementation, and features of the Innovative ERM module at Glasgow University.[71] Tull described the conversion from the local management database to the Innovative ERM module at Ohio State University.[72] Tull et al. discussed the integrated features of the ERM module and the use of the three new types of records (resource, license, and contact) for managing electronic resources.[73]

The final report of the Digital Library Federation Electronic Resource Management Initiative (DLF ERMI) was released in August 2004.[74] The document outlined ERM system needs, covering how groups of data elements are related and relating them to functional requirements. The document served as a standard for use by both libraries and vendors. Fons and Jewell summarized the key findings of the 2004 DLF ERMI report as background for proposing an ERMI II.[75] Several key library systems vendors developed electronic resource management systems on the basis of initial DLF ERMI specifications and modular components of their existing ILSs. According to the authors, ERMI II would move the standardization efforts further into the tracking of license data, the development of the license expression specification, the use of Project COUNTER Codes of Practice to standardize use data reports, and finally a standardized method of collecting use statistics from a variety of vendors known as SUSHI (Standardized Usage Statistics Harvesting Initiative). They concluded by recounting the key benefits implementing an original ERM system brought to the acquisitions function and by proposing additional functions needed to effectively manage electronic resources.

Managing Electronic Resources: Contemporary Problems and Emerging Issues, edited by Bluh and Hepfer,

is an important collection of eleven papers from knowledgeable authors on a variety of ERM issues.[76] Many of the papers were presented at the 2003 and 2004 ALCTS Midwinter Meeting symposia.

Licensing

Purchasing electronic resources often included a license agreement defining what the library and authorized users may do. The license agreements varied in complexity and often required a negotiation of terms. As libraries switch from print to electronic journals and books, librarians could be faced with more licenses to process.

Algenio and Thompson-Young examined the content of license agreements for e-books with a particular focus on how these contracts should be reviewed, revised, and negotiated to meet libraries' needs.[77] They noted that while the one e-book, one user model can be easily negotiated to meet library requirements, license agreements for subscriptions to e-books were similar to those for e-journal packages. The authors recommended that libraries insert language into the license as needed to meet library requirements, and they described specific clauses and terms that should be considered important to any e-book license agreement.

The concept of creating and using a model license was thoroughly examined by Bosch in an article that covered the history and development of model licenses.[78] The article addressed the many benefits of using the model license from both the publishers' and the libraries' perspective. Bosch also pointed out the potential problems caused during negotiations by the use of the model license. The article provided a summary and explanation of the common elements found in most model licenses.

Chou and Zhou examined licensing from a legal perspective.[79] The article defined the types of legal protection provided to producers of digital content, described the purpose and types of license agreements, and discussed the effect of these agreements on libraries' core values.

Through the use of a fictitious case study, Shipe discussed the barriers encountered in acquiring access to electronic database products.[80] The license agreement for his fictitious product included typical terms that were unacceptable for a state university: no access for the general public within the library, a clause indemnifying the licensor against any third-party legal action, and legal jurisdiction in another state. Shipe described the process of negotiating the license agreement with members of a society dependent on outside counsel, working with very busy university attorneys, and explaining the delay in access to their patrons.

Stemper and Barribeau identified perpetual access to e-journal content as a key problem for research libraries in an article that received the 2007 Best of *LRTS* Award.[81] Looking for license terms that provided useful guarantees of ongoing access should the subscription be canceled, the authors found that 36 percent of commercial publishers and 28 percent of society publishers provided perpetual access. If licenses were accepted without a perpetual access clause, libraries risked losing future access if a subscription is canceled. The authors concluded that academic libraries should insist on perpetual access even if it requires an additional fee.

Wiley surveyed thirteen large research libraries in the Midwest regarding ILL clauses in licenses.[82] The author noted that due to budget cuts many print journals were being cancelled without the realization that licenses for the electronic materials may prohibit or limit ILL. She presented specific examples of license terms that authorize and those that deny ILL uses. Wiley also discussed important issues affecting ILL services, such as copyright, the Commission on New Technological Uses guidelines, model licenses, and the power of consortium negotiation.

A key resource on licensing and acquisitions is *A Guide to Licensing and Acquiring Electronic Information* by Bosch, Promis, and Sugnet, with contributions by Davis.[83] Much of the text is focused on licensing electronic resources. The appendixes provide information on nonnegotiable and negotiable licenses and licensing terms. Another important resource is *Licensing in Libraries: Practical and Ethical Aspects* by Rupp-Serrano.[84] This book offers basic information on licensing, gives examples, and provides a history of licensing. Durrant's book, *Negotiating Licenses for Digital Resources*, focuses on the process of negotiating with publishers and suppliers for better license terms and prices and walks readers through the preparation process.[85] Another publication of interest is the report on licensing by Primary Research Group (PRG).[86] PRG surveyed libraries across the United States, Canada, the United Kingdom, and other countries about database licensing practices. Their report covers licensing terms and provides historical information on licensing.

Reorganization and Workflow Changes

Reorganization and workflow changes continued to be a major topic during the period of the literature review. Between the years 2000 and 2003, articles focused mainly on changes within work groups. However, some articles examined the workflow between work groups and the need to realign staff to provide more support for the acquisition of electronic resources.

Grahame and McAdam reported on an ARL survey in which 87 percent of the respondents indicated they were making organizational changes to support the processing and managing of electronic resources.[87] Workload (staffing

levels) and the need for an ERM module were identified as future challenges.

Higa et al. undertook a major reorganization to address staffing needs for a digital environment, a problematic team approach, and the lack of a clear vision.[88] A taskforce collected data on which to base the restructuring. As a result of that data, new or modified departments were established. One of the new departments, Digital Infrastructure Research and Development, handled long-range planning and research. A second new department, Digital Access, had responsibility for the access to the collections. The third new department, Print Resource Management and Optimization, addressed book selection and processing, serials processing, binding, and shelving. The Acquisitions and Licensing Department was modified to handle all resource purchasing and manage the journal collection development.

Morris and Larson described the complex issues encountered as their corporate research library moved from acquiring print to leasing digital resources.[89] They found that the basic acquisition processes for electronic resources were much more complex, requiring the understanding of pricing models and the negotiation of licensing and access rights with societies, aggregators, and many publishers. The authors highlighted the need to update job descriptions and staff skills to function effectively in the digital environment.

Ohler addressed one of the most pressing issues in acquisitions management: how to successfully change the functions of a print serials unit to effectively manage electronic resources acquisition and maintenance.[90] Using an extensive literature review to illustrate her perspective, Ohler detailed the complexities and risks of redesigning staff responsibilities and tasks to meet the complex demands of processing electronic resources. Ohler's emphasis on the challenge of organizational change further emphasized the importance of examining all library work in light of user needs.

Kulp and Rupp-Serrano surveyed twenty-four academic library members of the Greater Western Library Alliance regarding the selection, funding, and workflow coordination of electronic resources acquisition.[91] While the authors found broad common categorizations of patterns for selecting and funding electronic resources, coordinating the acquisition and processing tasks revealed a much less clear scenario. Perhaps because of a lack of standards and technology to support managing electronic resources, many of these libraries indicated that their workflows were expertise-based, relying on one or two individuals to manage the acquisitions process.

Fenner outlined key issues affecting technical services operations.[92] Increased user expectations for electronic resources; the complexity of acquiring and managing the emerging new electronic formats; training in the many systems required to acquire, process, and catalog these resources; limited budgets; and hiring freezes forced technical services librarians to reconsider their basic assumptions and alter their traditional workflows. Fenner discussed organizational restructuring as a solution for streamlining procedures and using staff more efficiently.

Youngman, through a process-flow analysis, found a more effective way of handling the increased ordering and processing of monographs late in the fiscal year with limited staff.[93] The process eliminated duplicated effort and other steps, resulting in a better workflow and more efficient use of staff time.

Fowler and Arcand performed a serial acquisitions time and cost study to determine if there were standard data elements that could be used for making management decisions, such as the reassignment of staff time to other tasks.[94] During the study, an increase in electronic resources resulted in the need to hire an electronic resources coordinator because of the complexity of licenses and time required to negotiate them. The study revealed the difficulty in controlling time and cost. It verified the need for standard data elements in acquisition records down to a granular level to reduce the time and effort needed to produce management reports.

Alexander and Williams described the results of using an accelerated improvement workshop for their technical services staff at Wichita State University.[95] The focus of the workshop was to reduce the processing time for monographic acquisitions. The results of the workshop were immediately beneficial—processing time for books from receipt to shelf was reduced by ten days. The authors suggested that other acquisitions workflows, such as approval book plans, vendor relations, and special projects, also could be improved by this method.

Hepfer, Davis, and Waters' chapter in *Perspectives on Serials in the Hybrid Environment* addressed the effect of acquiring electronic resources on technical services units.[96] The authors studied the State University of New York to identify the need for additional support, training of staff, and implementing an ERM system.

Conclusion

Libraries are steadily shifting from print to electronic resources. User demand, new technology, and financial savings will continue to drive this change. New pricing models for e-journals and e-books will continue to emerge. As print resources diminish, workflows will continue to be changed and technical services departments will continue to restructure to support the new demands of the digital environment. As new forms of electronic resources appear, ERM systems and standards will continue to evolve to handle the growth and effect of electronic resources.

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