Preface

Since the advent of Dialog in the 1960's, the proliferation of computer-based bibliographic resources has dramatically changed the way library collections are processed and accessed. In the 1980's, we witnessed the parallel development of online and CD-ROM databases. Then, with the entrance of the World Wide Web in the early 1990's, came a radical shift in the way users access information and vendors responded by developing new Web-based platforms and search interfaces. In the early years of the new millennium, further developments such as meta (cross-interface) database searching, link resolvers, openURL standards, and so forth began to emerge.

These developments, coupled with the new expectations of the Internet-savvy user, affected all types of libraries who had to rapidly shift from print-based to electronic resources. Whether the electronic resource comes from a commercial publisher or a local digitization effort, this trend is also rapidly changing library operational and organizational practices. Along with the increase in electronic resource acquisitions, librarians have had to quickly adapt and address an ever complex set of new challenges and changes related to: workflow management and planning; selection and acquisition procedures; copyright and license negotiation; cataloging practices; public access interfaces; and utilization of usage statistics. Libraries must now come to terms with how to better evaluate, acquire, store, and manage this wealth of electronic resources. The proliferation of electronic resource management systems (ERMS) presents an additional problem for libraries, that must now develop in-house resource management solutions or acquire one of a myriad of emerging turn-key solutions and implement them in an evolving organizational setting.

Many librarians and managers have begun to understand that issues related to electronic resource management are far-reaching, complex, and changing the very nature of what we collect and how our users access it. A typical scenario for acquiring print resources in an academic library for example, might involve the selection of materials by subject-specialist librarians or bibliographers; order placement by library acquisitions; cataloging and processing by library technical services; and shelving by the circulation unit. In the electronic realm, this traditional workflow could potentially be an entirely different process or be handled in whole or in part by an ERMS.

Electronic resources may take many forms, from e-books or journals to full-text resources from aggregators, or index/abstract databases from publishers. The way in which electronic resources are managed is becoming more distinct from print with new approaches to planning, tasks, workflow and communication. The planning process encompasses policy-making, budgeting, and staffing. Tasks may include things like setting up trials, license negotiation, authentication, troubleshooting, evaluation, and renewal. Workflow covers the entire process from initial product consideration, making the resource available to patrons, to renewal or cancellation. Communication includes a variety of interactions from local administrators to vendors, IT staff, public service personnel, and users.

In conducting a literature review on this subject, we found a number of "how-to" manuals or guides, but few comprehensive research volumes on the topic of electronic resource management in libraries. Several of these texts are worth exploring however, and provide useful information to librarians involved with electronic resource management. A summary of some of the key texts follows.

In an attempt to be as inclusive as possible, Jewell (2001) identifies ten primary issues and practices in *Selection and Presentation of Commercially Available Electronic Resources: Issues and Practices*, a report published by the Digital Library Federation (DLF) and Council on Library and Information Resources (CLIR). From a broad perspective, Jewell stresses two fundamental factors to sustainability of electronic resources: pricing and management operation. He examines emerging strategies for exerting economic pressure within the marketplace for electronic resources. He also points out that because substantial staff time is required, sustainability is an important operational issue. Jewell's report was one of the most comprehensive available at the time of its publication in 2001.

Building an Electronic Resource Collection: a Practical Guide by Lee and Boyle (2004), discusses the reasons for buying electronic resources, and provides information on delivery options, collection development policies, and usage evaluation. They also present an overview of the major technical issues that arise when working with electronic resources, such as: remote versus local access, authentication, linkage services, and archiving issues.

In his *Buying and Contracting for Resources and Services, A How-to-do-it Manual for Librarians*, Anderson (2004) emphasizes the importance of establishing successful vendor relations. The book provides insightful and noteworthy tips on building and maintaining the library-vendor relationship.

Discussions on management, assessment, budgeting and planning, collection development, acquisitions, licensing, and more can be found in Conger's *Collaborative Electronic Resource Management: from Acquisition to Assessment,* published in 2004. The author emphasizes the disruptive effect of digital resources on workflow as library professionals strive to address an array of management challenges. She points out that "digital resources, by their nature, have proved to be slippery and their management requires innovation, creativity, and collaboration" (Conger, 2004). She suggests that, "a discussion of electronic resource management quickly becomes a discussion of the overall management of a typical library" (Conger, 2004). The author demonstrates how the management of electronic resources fits into the new collaborative management model that relies on learning more than control to respond to change.

In *E-Metrics for Library and Information Professionals: How to Use Data for Managing and Evaluating Electronic Resource Collections,* White and Kamal (2006) introduce electronic usage statistics (e-metrics). Section 3 of the book in particular, focuses on how to use and customize vendor-supplied data, and how to build local metrics.

The revised edition of *Selecting and Managing Electronic Resources, A How-to-Do-It Manual for Librarians*, by Gregory and Hanson (2006), provides a list of useful selection tools and includes a "Selection criteria worksheet for electronic resources," which serves as a model for libraries in need of implementing such procedures.

The most comprehensive effort on electronic resource management can be found in the *Report of the Digital Library Federation Electronic Resource Management (DLF ERMI) Initiative*. ERMI grew out of Jewells' research discussed earlier. In May 2002, the National Information Standards Organization (NISO) and DLF sponsored a workshop on Standards for Electronic Resource Management. Participants included librarians as well as representatives from EBSCO, Endeavor, ExLibris, Fretwell Downing, Innovative Interfaces, SIRSI, and Serials Solutions. The main purpose of the workshop was to bring librarians, publishers, and vendors together to create and test standards for electronic resource manage-

ment. ERMI incorporated information from the workshop and went on to develop common specifications and tools for managing license agreements, related administrative information, and internal processes associated with collections of licensed electronic resources. The report and working documents from this initiative provide detailed specifications, standards, and best practices; invaluable for drafting system specifications, directing vendor development efforts, and informing librarians. These guidelines have now been largely adopted by commercial ERMS vendors.

These publications, along with numerous published journal articles, provide a framework for the management of electronic resources in libraries. We believe there are many important issues and questions still to be explored in this field, however. For example: why do many institutions continue to be reactive rather than proactive, lack policies and procedures, and retain antiquated workflow systems for the handling of electronic resources? We believe to fundamentally address these concerns, administrators, library professionals, and support staff, need to more fully understand the issues and challenges associated with the provision of electronic resources and the importance of proper management and strategic planning.

This book provides comprehensive coverage of the theories, methods, and challenges, research and practices connected with the provision and management of electronic resources in libraries. It can serve as a practical guide that emphasizes and supports strategic planning, operational policies and procedures, workflow and organizational structure. It addresses strategic planning for electronic resource management from the perspective of planning, policy, and workflow management. It also provides an authoritative analysis of electronic resource management systems including their challenges and trends, and the latest development in electronic resource management standards, such as SUSHI and COUNTER, and the impact of Web 2.0 and Library 2.0 applications. The book also provides a comprehensive review of the evolving license terms, practices and agreement negotiation techniques of electronic resources, and impacts of copyright in relation to electronic resources and their unique characteristics and challenges. It examines evolving roles and core competencies for electronic resource librarians as a result of increasing demands for library professionals trained in the planning, selecting, implementing, and evaluating of electronic resources. Discussions are also provided on practical issues encountered by librarians that have not been well addressed in the literature, such as naming conventions for electronic resources, or the various types of authentication and authorization mechanisms currently in use.

In an attempt to provide the reader with comprehensive coverage of the core topics related to electronic resource management, this book consists five sections including an historic overview, strategic planning, and usage statistics; workflow management and competencies of electronic resource librarians; copyright and licensing; working with electronic resources and electronic resource management (ERM) systems.

Chapter I "History of Electronic Resources" traces the history and major developments of electronic resources in libraries in the United States. The chapter discusses the rapid changes and underlying issues which have affected the evolution of library electronic resources from the 1960's to the early 2000's. It is the author's hope that this historic overview may lead the reader to a better understanding of the current situation and provide lessons for the future.

Chapter II "Strategic Planning for Electronic Resource Management" addresses the subject from the perspective of planning, policy, and workflow management issues experienced by libraries. The authors suggest ideas and methods to address these management challenges.

Chapter III "Electronic Usage Statistics" provides an overview which includes methods of defining, collecting, and using usage data. A survey of some of the systems of estimating journal usage in the

print environment is followed by a description of the development of electronic usage practices. The important contributions of the COUNTER and SUSHI projects are reviewed, along with examples of other ways statistics can assist in decision-making throughout a product's life cycle.

Chapter IV "Selecting and Managing Electronic Resources" provides an in-depth analysis of the workflow for electronic resources from selection to acquisition. It addresses major steps, processes, procedures, and issues in selecting and acquiring electronic resources and covers the selection process including tools, challenges, and selection criteria.

Chapter V "Sharing the Albatross of Electronic Resources Management Workflow" illustrates that while management of electronic resources is often seen as a strictly technical services endeavor, it should be approached as a multifaceted process requiring all areas of the library. This chapter offers a detailed account of how one library handles the electronic resources management workflow collaboratively.

Chapter VI "Process Mapping for Electronic Resource Management— A Lesson from Business Models" bases its research on the premise that existing electronic resource management guidelines are conceptually linked to actual management situations. This chapter describes how a business and industry method called process mapping can be applied to the management of electronic resources in libraries. A case study is presented to illustrate the process.

Chapter VII "Evolving Roles for Electronic Resource Librarians" examines the emergence of the electronic resource librarian specialty within academic libraries as a result of increasing demands for library professionals trained in the planning, selecting, implementing, and evaluating of electronic resources. The authors discuss the core competencies of these positions by analyzing job advertisements published in the *College & Research Libraries News* and *The Chronicle of Higher Education* between July 2001 and June 2006. Implications for library education and organizational structures are also discussed.

Chapter VIII "The Evolution of License Content" provides a comparative analysis of thirty-five licenses created prior to 2000 (and their 2006 equivalents) to reveal how license agreements have evolved to meet the principles set forth in recent years by the American Association of Law Libraries, the International Federation of Library Associations, and the NorthEast Research Libraries. The results of the study indicate that efforts in the library community to encourage the development of licenses that meet the needs of most institutions are having a positive impact.

Chapter IX "Copyright Implications and Applications for Electronic Resource Management" begins with an examination of the sections of copyright law that impact electronic resource management. Copyright is discussed in relation to particular types of electronic resources and their unique characteristics and challenges. The chapter incorporates information gathered from a survey of professionals working in a variety of libraries—providing a practical view of how librarians are approaching copyright in the daily reality of their increasingly electronic environments.

Chapter X "Negotiating Licenses for Electronic Resources: Tactics, Terms, and Process" provides the reader with an overview of basic contract law as it relates to electronic resource licensing. The chapter also discusses the negotiation process as well as license agreement terms and clauses. By sharing tips and lessons learned in the negotiation process, the author hopes to provide librarians with a practical understanding of the resource licensing process.

Chapter XI "Working With Database and E-Journal Vendors to Ensure Quality for End Users" describes how the California Digital Library (CDL) supports the thousands of electronic journals, databases, collections and reference works that are licensed by CDL on behalf of the ten campuses of the University of California (UC). It indicates that three key components were vital to CDL's success:

involvement of librarians at all campuses; internal processes for working with vendors; documentation which emphasizes technical standards and best practices.

Chapter XII "One-Stop Shopping for Journal Holdings**"** advocates providing a unified, seamless, interface for the full range of journal literature available to library patrons. The author reviews the tools available for making journal collections accessible, and then analyzes the categories of journal literature to which a library could provide access. It closes with a brief look at future trends that will affect the ability of libraries to provide coherent, seamless access to journal literature.

Chapter XIII "Beyond OpenURL: Technologies for Linking Library Resources" provides an over-view of the existing techniques for reference linking of scholarly research materials and discusses some of the new techniques designed for advanced linking. The discussion also includes information about the impact of Web and Library 2.0 applications.

Chapter XIV "Authentication and Access Management of Electronic Resources" opens with a discussion of the need for libraries to provide users with local and remote access to elec-tronic resources. It discusses authentication and authorization mechanisms currently in use by librar-ies, their parent organizations and electronic resource providers. The chapter concludes with a look at considerations and directions libraries and e-resource providers may take in the future to provide secure and seamless access to electronic resources.

Chapter XV "Using Consistent Naming Conventions for Library Electronic Resources" points out that there are no accepted standards governing naming electronic resources in A to Z lists or electronic resource management (ERM) systems. Current practice superficially resembles cataloging standards and guidelines, but is substantially ad hoc, and reliant on local adaptation and innovation. The issues related to naming electronic resources are discussed and a draft set of principles and conventions is offered.

Chapter XVI "Standards: The Structural Underpinnings of Electronic Resource Management Sys-tems." Built to manage all steps in the lifecycle of an electronic product, ERM systems must interoper-ate with existing integrated library systems (ILS), public service, and financial software already in use within the library. The importance of ERM standards is discussed, including efforts like SUSHI and the License Expression Work Group to define new standards and protocols for ERM systems.

Chapter XVII "Challenges and possibilities in the time of ERMS" discusses problems encountered at an institution during the installation and utilization of ERM systems, such as Ex-Libris SFX and III ERM. The author's objective is to provide readers with a balanced understanding of ERMS pros and cons from a librarian's perspective.

Chapter XVIII "Panorama of Electronic Resource Management Systems" discusses the Electronic Resource Management Initiative reports, various library-developed systems, and how existing and developing standards help with the continued development of ERMS and with their integration into integrated library systems.

Chapter XIX In "The Impact of Locally Developed Electronic Resource Management Systems" the development of "home grown" tools at several academic institutions is traced, with a focus on the aspects of how the systems are unique to each university. As a result of locally development systems, commu-nity-wide efforts to identify key elements for managing electronic resources have begun to emerge.

Chapter XX "The Future of Electronic Resource Management Systems: Inside and Out" examines ways in which collection analysis and other functionality might be facilitated by the use of data stored in electronic resource management systems. The author suggests that as ERMS evolve, their utility should expand to include collection analysis as well as the source for critical access and license data for patrons wherever they access the library's electronic resources.

Chapter XXI "In the Eye of the Storm-ERM Systems Guiding Libraries' Future" describes how libraries have struggled to rethink policies, procedures, systems, and their own roles, to meet the information seeking and research demands of their patrons. The chapter discusses ways in which ERMS should evolve to help libraries meet the challenges of the future. They conclude that ERMS represent the "new ILS"—the next "heart" of library management systems, and believe that it's imperative libraries direct ERMS development in ways that support and advance, rather than undercut, their missions.

In order to provide up-to-date coverage of research, practices, and challenges related to electronic resource management in libraries, we invited researchers and practitioners to submit proposals describing their suggested topics and contributions in the field. All proposals were carefully reviewed by the editors for suitability in scope and coverage. Each chapter submission was then subject to a double blind, peer review process.

We hope that this book helps library managers, professional librarians, and library personnel involved in electronic resource management come to a realization that with the increase in electronic resources, the types of processes libraries have traditionally employed in print collections are no longer suitable, and the workflow of electronic resources has a tremendous impact on the overall structure, strategic planning of the library. It also helps to learn how libraries can manage electronic resources in a more streamlined workflow and collaborative effort. It assists in foreseeing key issues and challenges encountered during the installation and utilization of ERM systems, and impacts of the Web 2.0 and Library 2.0 tools on resource linking, and the latest development in tracking usage statistics of electronic resources. It is our sincere hope that the research and analysis by our expert contributing authors provides a comprehensive and practical tool with which to better understand electronic resource management in research and practice.

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