

# Accessing and Maintaining Electronic Resources

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## INTRODUCTION

Electronic resources, as defined by the International Federation of Library Associations and Institutions (IFLA), refer to “those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. They may either be accessed remotely via the Internet or locally.” (Johnson, 2012, p. 3)

Given this broad definition, electronic resources includes many types and formats of digital media, including the following formats often collected by libraries: ebooks, ejournals, databases, electronic theses and dissertations, websites, government documents, digital libraries, and repositories.

They may require an Internet connection to access, or may be available on media such as a disc or portable drive. Regardless of the location of the electronic resource, one aspect that they all have in common is that some technology mediation is necessary in order to access the object. A website on the Internet cannot be viewed without a computer, a browser, and an Internet connection, while a PDF stored on a CD cannot be viewed without a device that reads CDs and software to view PDFs.

This article will introduce electronic resources first through a brief history and the evolution of various formats, leading up to the wealth of electronic resources available currently.

Following the brief introduction, the article will address several topics all revolving around the concept of access to electronic resources. Topics to be discussed include: access and management, preservation, and acquisition strategies. Topics then shift to issues that may prevent or complicate access, such as Digital Rights Management, the Digital Divide and its effects, and rapidly rising costs of electronic resource subscriptions. Finally, opportunities for improving or subverting the previously mentioned difficulties are addressed through

the concepts of open access and copyleft as well as publisher boycott movements.

## BACKGROUND

### History of Electronic Resource Development and Use in Libraries

Some of the first library resources to develop electronically were electronic information resources (EIRs). Today libraries commonly refer to these as databases. As early as the 1960's, computer systems that indexed bibliographic data were made available. These early databases, such as Chemical Abstracts, were available on magnetic tapes and could be searched offline in batches (Weber, 1997, p. 1) At this time, searching for citations was an activity performed by a librarian on behalf of a patron.

Technology rapidly developed through the 1980's and 1990's, bringing forth personal computers and the Internet. Eventually, these databases were made available online and interfaces were developed to allow non-expert users search for their own research. Lists of citations soon advanced to include full-text articles available in multiple new formats, such as HTML and PDF. It is now typical to find online databases, image collections, data sets, ebooks, ejournals, and streaming video available in public, academic, school, and special libraries.

### Importance of Electronic Resources for Library and Information Science

In the last decade, libraries have seen a significant shift in their collecting practice, showing an increase in the acquisition of electronic resources for their collections. Electronic resources have increased in number, and

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libraries in turn have increasingly purchased more e-resources.

The increased availability of electronic resources, in combination with shrinking storage space, rising costs of print materials, shrinking budgets, and the potential for theft of physical volumes, made e-resources very appealing for libraries. (Weber, 1997, p. 5) E-resources have many potential advantages of their print counterparts, including efficient storage, availability beyond library building hours, and the potential to serve more than one patron at a single time with no need to purchase additional copies.

Electronic resources also present unique challenges. As technologies grown and absorbed some of the early tasks taken on by librarians, librarians and information scientists have shifted their focus to the management, from purchase to preservation, of the growing electronic resource collections available to them.

## ISSUES

### Management and Access

Libraries have had many years to establish workflows for the acquisition of printed materials. A book in the typical print lifecycle is purchased, cataloged, placed on a shelf, replaced if damaged or stolen, and weeded out of the collection as necessary.

For an electronic resource, however, the lifecycle is much more complex and requires intervention more frequently. Distribution models, the requirements from publishers and distributors regarding the appropriate methods of access management, and the addition of renewal costs to the lifecycle of an electronic resource—all of these elements make management a much more complex process than the traditional print paradigm.

### Models for Acquisition

Electronic resources may be purchased directly from the publisher, from wholesalers who sell content on the behalf of publishers, or through aggregators who acquire content from publishers and then sell content bundled to libraries.

Publishers and vendors may offer a direct, one time purchase of an electronic resource, but more often, publishers will offer a lease of content.

Within these purchase models, use may be further restricted. Some electronic resources may only allow one simultaneous user. This is often seen for databases and ebook subscriptions, while ejournals are typically not affected by these limits.

### Patron Drive Acquisition

A popular trend in the last decade is the patron driven acquisition (PDA) model for electronic resources. The current models deployed typically deal with the acquisition of ebooks, but proposals for pay-per-use journal articles have also begun to arrive from publishers and distributors.

In the PDA model, libraries are able to make information available about available ebooks in their discovery services or online catalogs. These books have not been purchased by the library, but have the potential to be purchased. Patrons searching their catalog will find a potential ebook and have immediate access to the entire ebook. The PDA program may automatically purchase the book at this time, or may trigger a purchase after a set number of views.

This model supports a new model of library collection practices, moving from a “just in case” to a “just in time” model, meant to help lessen the purchases that will never be used by patrons and focus acquisition on what patrons demonstrate they do use. It also increases the number of ebooks that patrons have potential access to and empowers patron to play a more direct role in collection development in their own library (Corbett, 2011, p. 95). By setting up approval plans of titles that libraries would like to appear as available and excluding those outside of their collection policies, librarians and patrons work together to develop a useful collection of ebook resources.

### Management

Once an electronic resource is purchased, several aspects must be considered before access can be provided to patrons. To adhere to use restrictions required by the publisher, libraries must have a way of limiting access to users who fit within the scope of patrons agreed upon with the publisher. For public libraries, users may need to authenticate with their library card number. In academic libraries, IP authentication is a technique used to ensure that patrons are able to access electronic



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