The Evolution of Selection Activities for Electronic Resources

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ABSTRACT
As the principles of collection development have evolved over the last two decades, most selection activities for electronic resources have developed from criteria established for print materials. For nonprint formats, selection criteria follow a generally standard model, varying only slightly as additional criteria are needed to assure equipment compatibility and storage security. Selection of electronic resources, such as CD-ROMs, dial access databases, electronic journals, and World Wide Web (WWW) products, requires a more extensive set of criteria. This article outlines how the traditional selection activities must continue to evolve to meet the needs of the new electronic environment.

INTRODUCTION
At the center of the traditional selection model are three basic criteria: the reputation of the author and publisher, the scope and breadth of content, and the relevant details of special formats or features. Much has been written about each area, with particular guidelines focusing on various subject areas and particular nonbook formats. Gorman and Howes's (1989) review of the standard writings on selection criteria reduce several detailed sets of criteria to two broad categories: (1) content, and (2) presentation and form. Most contemporary writings on collection development continue this traditional content and format-based orientation with some additional mention of pricing structures. With the advent of electronic formats, however, these selection practices are no longer...
The actual criteria for selection and subsequent acquisition of electronic products move far beyond the traditional models.

The complexity of access to electronic products has greatly increased the tasks related to selection activities. In making the appropriate decision, the selector must consider not only the content and format of the product or item, but the equipment needs, access methods, purchase or lease options, and varying cost structures. Sandore and Ryan (1994) remind us that evaluating the new technologies and resources is just as important as providing them. Such review requires a detailed understanding of the technology involved and how it will be applied to the use of the product. The selector must consult with the reference staff, technical specialists, network directors, and product engineers to assure that the product will, in fact, be accessible, that it will provide a user-friendly interface, and that it will integrate efficiently into the local environment.

The two primary factors influencing collection development activities for electronic products are technology options and licensing issues. As a primary function, libraries should select only those electronic products for which they have the applicable technology. Today's literature is full of articles and advice on technological issues such as establishing access to CD-ROMs, setting up local area networks, and linking to networked services via the Internet and the World Wide Web (WWW). Yet for selection purposes, technology and access issues are unique to each library, requiring an in-depth knowledge of the local computing and networking environments. The selector must work closely with technical staff to understand this information, make the best selection decision, and in turn communicate these technical requirements to those handling the acquisition and automation functions.

The second major influence on selection activities is the handling of license agreements. The 1976 Copyright Law has not proven to be effective in protecting the rights of authors, database and software owners, or producers and distributors of electronic products. To protect their economic investments, many of these parties have moved to the use of license agreements, either passive licenses shrink-wrapped to the product or more extensive licenses requiring signatures by both parties. These license agreements explicitly deny many rights defined by the copyright laws and have introduced new issues of user identity, product capabilities, and restrictions on use into the selection decision. The selector must consult with appropriate acquisition specialists, purchasing agents, and/or legal counsel to assure that all user and technological needs can be met before the final selection decision is made.

To best understand the development of selection criteria for electronic products, an examination of each issue is helpful. The following analysis examines each category of selection criteria for electronic products, including CD-ROMs, networked databases, remote access databases,
and WWW sites. An evolutionary approach is taken to the traditional selection criteria to illustrate the changes brought on by the movement to electronic media. The newer issues relating to technological concerns and license agreement limitations are discussed in terms of users and access, deliberately avoiding the related pricing models. The resulting study provides a guideline for selection activities at all three levels.

**Traditional Selection Criteria**

A primary function of the collection development process is to define the library's criteria for selection. The most fundamental criteria are designed to evaluate the reputation of the author(s) and publisher, ascertain the level and depth of the content, and consider any special format or features that add value to the title. Many of the readily available print review sources address these issues in great detail. For electronic resources, these criteria quickly evolve into evaluation of other parties participating in the creation of the product, assurance that the correct content is available, and confirmation that the product performs as expected. Adding to the complexity, electronic product reviews are available from a wide variety of print and electronic sources.

**Reputation of Authors, Publishers, and Producers**

Traditional selection practices for print materials have relied on the reputations of authors, illustrators, editors, printers, and publishers as a key criteria for selection. In the nonprint and electronic publishing worlds, this group of creators expands to include graphic artists, photographers, software authors, screen designers, and home page developers. The concept of examining the reputation of the creators by considering their qualifications and previous works does not change but expands significantly in the nonprint and electronic realms.

In the nonprint market, the producer's and the distributor's reputations are equally important to the selection process. For traditional audio and video products, such as sound recordings and films, the producer and distributor are often the same as the publisher. It is rare that a product is produced or distributed in multiple versions by different firms. The technology involved has been standardized over the years, and products are seldom offered in formats beyond the consumer norms. Selectors can rely on standard criteria and many years' experience with these firms to quickly evaluate the content, level, and quality of their products.

When a work is transferred to an electronic medium, adjunct creators, such as the author of the search software and the database designer, take on new importance. In the 1980s, it was the print index author/publishers, in tandem with digital tape and CD-ROM producers, who first prompted the transition to electronic format. These partnerships have created new markets for print production databases by providing a method
to integrate them directly with automated library systems or via separate
search engines. Selectors are often familiar with the content, level, and
scope of print products but have little experience with evaluating online
interfaces or the technology required to integrate them into the library
catalog. At this point, the selection responsibility has to be expanded to
include the library's technical experts.

Now that many traditional print products are moving to CD-ROM
and WWW based formats, the advent of search engines and web browsers
brings an entirely new perspective to the evaluation process. A single
database may be available in several versions from multiple vendors run-
ning under various access methods or search engines. Many selectors
have begun to rely on products from large producers/distributors, such
as UMI, SilverPlatter, and EBSCO, not only for quality of content but also
for the reliability of software, ease of access, and customer support. Se-
lectors are familiar with these companies' previous products and how
well they perform and integrate with the local technology. Thus new
partnerships of author/publisher and producer/distributor have become
meaningful and worth examination in the selection process.

**CONTENT: SCOPE AND BREADTH**

Content is the second criterion that comes to mind in traditional
collection development. Broadus (1981) has provided in-depth advice
on how to examine a title to determine its intended coverage, audience,
special features, and relationship to the collection's actual needs. Selec-
tors normally are familiar with questions concerning the need for in-depth
coverage or a broad overview, an exhaustive analysis or a selective review,
a historical perspective or a more contemporary observation, and the
avoidance of errors and bias. These issues remain critical to selection of
nonbook and electronic products as well.

When considering a print title, it is relatively simple to base a deci-
sion on an in-hand review of the book. For nonprint materials, a physical
examination of the item is even more important. Typeface, illustrations,
graphics, and even packaging dramatically affect the item's quality and
usefulness. Often the product includes audio or video components which
should be seen or heard before a final decision is made. Many selectors
have learned to rely explicitly on thirty day trials, examination copies,
and interlibrary loans for this purpose.

The review process for electronic products is similar in that the scope
and breadth of the content must be considered in the traditional man-
ner. However, a second major difference between the review of print and
electronic products lies in the profusion of product choices available to
the selector. When electronic products are created from databases used
to produce their print counterparts, they may easily be sliced and diced
and repackaged into a variety of products. Many times, the content available in the electronic product is not the same as the print product. Producers both bundle and separate text, indexes, and graphics according to requirements of the medium and what they believe will sell best.Selectors must thoroughly examine all purchase options and determine the most appropriate version for their library's needs. Often these choices are not clear from the marketing information or even from sales representatives.

The many content options create selection dilemmas. The electronic environment expands access to content by adding features such as interactive indexing and the ability of the user to move through the database at will. For CD-ROM or WWW-based products, several print volumes or even multiple titles can be combined into a single electronic work. If the desired title is only produced as part of a much larger work, the selector must consider the content and value of the added material in relation to the library's needs and the product's cost. Many products come to market quickly but are missing the complete back files, or have partial indexing of the content, or lack certain graphics. If the desired title is poorly indexed or missing detailed illustrations, the selector may have to trade off content for ease of use and accessibility.

The method of review, however, is considerably more challenging. Like nonprint materials, the selector must either trust the marketing information and reputation of the author/publisher or do a hands-on examination. Many producers are pleased to send a trial disc or put up a web sample for review. However, when these are only sample files and not the actual product, the selector cannot test the actual search engine or extent of the database. If the reputation of the database or software producer is well known, a sample product normally is sufficient for a selection decision. If this is not the case, some distributors will ship the product, with invoice, on a thirty-day trial basis. This works well for the selector who has the knowledge and equipment to mount and test the product in that time frame. If the product needs to be mounted and tested through complex network or remote access system, an extension of the thirty days can usually be negotiated. The important point is to be certain the product will function as expected before the selection decision is made.

Tenopir (1993) reminds us that it is important to remember that all of the various ways to access electronic information are part of the assorted distribution media. What is important is not whether something is online, on CD-ROM, on tape, or in print, but the content and ease of use. Content must be what users need or want, and it must be accurate, timely, and appropriate. Libraries cannot avoid the hardware, software, and access issues, but if we place too much importance on them, we may miss the content.
Format and Special Features

The third set of criteria that selectors depend upon are the item’s format and any special features. For books and print items, something as simple as how the text is organized and presented greatly influences the selection decision. Binding options and large-print versions may be a deciding factor for certain types of libraries. The existence and quality of special content features such as bibliographies, indexes, tables, and appendices can be extremely important to the selection decision. Finally, physical standards such as the quality of paper or illustrations play a significant role.

For nonprint products, these traditional criteria remain important, but format compatibility is key to the selection decision. Once the library has committed to a specific format of audiovisual equipment, computer network platform, or access software, the collection is built to those standards. Libraries have struggled for years with varying video, audio, and computer standards, only to have new options and formats arrive with each decade. Unless the desired item is available in a compatible version, it simply should not be selected. Selectors must possess a working knowledge and detailed understanding of the viable options for the type of material they are considering. Once basic compatibility is assured, the selector may then begin to consider special features and quality issues.

Often the item’s user friendliness in terms of loading, accessing, and operating the equipment is a deciding factor in selection. The product that cannot be loaded easily and quickly onto standard equipment will require significant assistance from library staff, and for this reason alone will not be selected. Special features such as operating manuals, user guides, templates, and even simple instructions on the package add to the products’ value. A seasoned audiovisual selector knows the importance of testing product use as a separate factor from content and reputation.

For electronic products, the examination must go a step further. Only a hands-on search will provide the selector with an understanding of how the product functions. A given title may have valuable content, good development of ideas, and quality writing, yet be very difficult to search or have a slow response time. The selector must examine command structures, screen displays, system responses, and help screens to assure reasonable functionality. As mentioned earlier, the reputation of the publisher or producer often assures the selector of quality features that guarantees a user-friendly product.

Technological Concerns

The selection of electronic resources follows the well-established criteria for selection of nonprint materials. Any selection decision must be based on the principle that the library has adequate equipment by which
to view, play, or provide access to the product. Given the many electronic formats, the criteria expand quickly to cover a continually changing array of products and access methods. The similarity to nonprint formats ceases when questions of archiving arise. Selectors may safely assume that, with proper care, microforms and audiovisual materials can be adequately preserved. The archiving of electronic resources raises concerns about the security of data files, search software and operating systems, remote access links, and storage costs. To address these technological questions, the selector must work in coordination with a variety of technical experts. Without their help, a decision based on traditional criteria may not succeed.

**ACCESS METHODS**

In traditional collection-development theory, access issues are limited to location or storage questions. The concept of providing or assuring access is never questioned. Hazen (1991) points out that these emerging electronic technologies are “forcing shifts in both the theory and the practice of library selection” (p. 294). With the prospect of large-scale access to remote resources, the library profession must alter some of the basic assumptions in its conceptual framework.

The naïve selector might easily assume that the primary focus for testing access should be ease of use. Yet, given the wide array of products and access methods available in any given library, the selector may struggle just to gain access. The traditional review literature now covers CD-ROM products, online access to full-text databases, electronic journals, and WWW sites. Access to these products may be as simple as an option on the library’s online public access catalog (OPAC) or via e-mail through a listserv on the Internet. For other products, though, the selector needs to understand concepts such as client-server technology, Z39.50 compliance, and graphical user interfaces (GUIs). Until these access methods are mastered, the selector cannot begin to evaluate the product’s ease of use.

More experienced selectors often believe they have mastered the common electronic formats. But even basic products quickly become overwhelming to the user when they are acquired for network applications. The simple user-friendly CD-ROM that is a popular stand-alone title may perform erratically on the local area network. The selector must rely on advice and reliable testing from the technical staff to assure the product will sustain the desired number of network users without a significant drop in response time. In the networked environment, problems with search commands and printing options can quickly arise due to software updates. Manhoff et al. (1992) advise that questions of access procedures, screen presentation, and file format and storage are answered differently depending on what product is being considered. In discussing
options for electronic journals, Manhoff notes that subscribers often must use a very specific hardware/software/communications setup simply to assure successful retrieval. Selectors cannot make a valid content-based decision until these hurdles are conquered.

Selectors must ask questions about product support and data updates. Electronic products by their very nature are updated regularly. For remote databases, this may involve nothing more than a regularly scheduled alerting message from the provider. For CD-ROM or Internet based products, updating may require the addition of more discs or the retrieval of new files. Such decisions would involve the need for more storage space on the server, more slots in the CD-ROM tower, or even regular updates to the search software. While assuming that familiarity with electronic access has become a basic skill for many selectors, Metz (1991) also notes that selectors should not be expected to double as software and telecommunications experts. To investigate these issues and assure currency, selectors require ongoing support from the library's technical specialists.

Finally, evaluation of electronic products should focus on issues that assure a user-friendly interface. Excellent coverage, reputable content, and extensive back files are irrelevant if the product is complex and/or tedious to search. It is essential for the selector to evaluate such basic features as menu-driven versus command-driven functions, consistency in screen displays, online help, Boolean search capabilities, and response time. Preview copies or test discs are an excellent method of determining how users will respond to the product. The selector may even actively recruit key patrons to test the product in their presence so immediate feedback can be gathered. This type of hands-on review is an important part of the selection process for any type of electronic resource.

ARCHIVING

Libraries traditionally have considered archival storage to be a high priority. Selectors have included the archival value of a title as a prime criterion for inclusion. For electronic products, assuring access to, and storage of, files is a critical issue. Selectors must never assume that this responsibility is safe in the hands of the database producers. Publishers have not traditionally maintained paper stock, and they have quickly realized that they are not in the business of storing large sets of data and maintaining ready access to them. This enormous task is very complex and expensive for even standard resources. As Dannelly (1995) succinctly states: "There is little reason to expect that any publisher, commercial or academic, will retain electronic information much longer than they retain paper copies. Again, it is a question of economics" (p. 666).

Assuring archival access becomes an even more critical issue for particular types of products, such as electronic journals and full-text data-
bases. Libraries also have learned that both storing large files of data and maintaining access to them is a significant additional cost in terms of staff, time, and resources. Selectors often are hesitant to rely on electronic copies of titles for fear that archival access will not be maintained. According to Manhoff (1992), libraries have traditionally been the archivists of periodical materials regardless of format. Libraries have adapted to storage on paper, microform, and audiovisual formats within our collections. Until there is assured access to electronic products, libraries have little choice but to acquire or produce paper, fiche, or data file copies.

**Licensing Limitations**

Selectors cannot afford to ignore the implications of license agreements when making a purchase decision. As long as electronic resources are available for lease rights only, examining license agreements will be an integral part of the selection process. The selector has to determine if a license exists, what impact the license will have on the selection and acquisition process, and if the rights assigned by the license are adequate for the library's purposes. In particular, the selector must examine issues of user definition, use rights and restrictions, and contractual obligations and penalties. An acceptable license agreement is required before the selection decision is finalized.

**User Definition**

Until the last decade, the entire concept of who uses a title or a product was never an issue in selection. Only in extremely rare circumstances did the publisher even inquire as to which library was acquiring the book and exactly who would be using it. Any question of confidentiality or proprietary rights was handled simply by limiting the title's physical distribution.

Questions of user identity first appeared in the selection of film and video products. Educational pricing structures for films and videos have been established to allow schools and academic institutions to acquire or lease a title for specific purposes related to the curriculum. Libraries and media centers are required to sign rental contracts or license agreements stating that the film or video product will be shown only to students of the institution. In public libraries, the definition of the user also becomes relevant when a film or video is purchased for the general collection and circulates to library patrons. As long as the selector defines the target user group, most distributors are more than willing to lease or sell the title at the applicable rate.

In general, a selector may expect a signed license agreement as a requirement for the lease or purchase of any networked computer software, CD-ROM database, or access to a remote electronic product. The
license agreement will explicitly define the category of user allowed to access the product. Such definitions normally include registered patrons of a public library; the currently enrolled students, faculty, and staff of an educational institution; or the current employees of a specific office of a corporation. The number of users usually is defined in the license agreement by level of service acquired or by a separate price schedule.

For selection of computer software and electronic databases, the definition of user is not problematic as long as the product is protected reasonably from illegal copying and multiple use. Selectors considering single-user single-machine applications will rarely encounter any question of the user. The selector needs to define all potential categories of users who will access the product, secure a lease, or purchase options that will provide such access and modify the license agreement as needed to allow such access. If the software product is being considered for networked or multiple-use applications, the selector has a much larger set of issues to handle: the definition of the user and the number of users.

The selector should be alert to problems that arise when the terms of the license agreement fail to adequately define the library’s users. Many license agreements provide a simplistic limited definition of the user and expressly prohibit all others from access. A public library may want to provide access to walk-in users who are not registered as patrons. An academic institution may have student-teachers, visiting lecturers, part-time students, alumni, consultants, and others who expect to use all library databases. A for-profit company may want to allow access to an online product by their employees in other parts of the region. These exceptions may not be covered in the standard contract. The selector cannot expect the product to be ordered until these variances are addressed. Access for these additional users must be negotiated as an integral part of the selection and acquisition process. The outcome will determine not only who may use the product but how much it will cost.

Beyond the definition of the user, license agreements sometimes also allow only a specific number of simultaneous users or limit access to users only at a specific location. These are even more frustrating factors for selectors to handle because the details of such restrictions often are not apparent without a detailed examination of the license agreement. In recent years, most products have been priced to allow libraries to purchase or lease access for a set number of simultaneous users. To make the right decision on number of simultaneous users, the selector must understand how access is controlled, consult with public services staff to estimate how many simultaneous users will be needed, and work with automation staff to assure access is indeed limited to that number.

Many times the information provided by sales representatives or marketing literature alludes to “free networking,” when in reality the carefully worded user definition in the license agreement restricts access by
the location of the network. Some licenses define users not only by student or employee status but by their presence in a particular library branch, office site, or academic building. The selector again must understand and negotiate the license agreement to assure that all users, regardless of location, may use the product.

USE CAPABILITIES AND RESTRICTIONS

The concept of defining use is relatively new to collection development. Very rarely are libraries explicitly told how they, or one of their patrons, may use a traditional print product. Selectors in special collections or corporate libraries frequently are concerned with acquiring and controlling access to proprietary materials. Selectors of nonprint materials for schools and public libraries expect to limit use of entertainment films and videos. Yet in the electronic age, almost every license agreement includes statements which detail even the most fundamental user capabilities.

The selector must understand how the majority of patrons will use the product to assure such uses are allowed by the license agreement. Simple assumptions such as the ability to search a database or print out portions of text must be verified. Definitions of approved uses vary widely and often include vague terms such as “a limited number of copies may be made” or “an insignificant portion of the search results may be cited.” The library selector should consult with public services staff to determine if these definitions are acceptable or if the license agreement needs to be edited.

A typical license agreement will define three major use rights: (1) to make searches of the text or database; (2) to make hard and/or electronic copies of the search results; and if applicable, (3) to make an archival copy of the software. Every license agreement will define these capabilities in different sections of the contract and in varying legal terms. The selector should read and reread the contract as many times as needed to assure that the rights are understood clearly.

By contract law, any rights not expressly granted in the license agreement are reserved to the product supplier. Many times use rights are stated in vague terms and are open to misinterpretation by selectors. Contract language often varies from the ambiguous to the explicit. For example, in the delineation of copying rights, the following statement is simple and clear: User may make a machine-readable copy of the software for archival purposes only. The following statement leaves considerable room for interpretation: User may make a reasonable number of copies of any search results that do not contain a significant amount of data. The selector has the responsibility to identify specifically the library’s usage requirements and to assure the desired rights are granted in the license.
A large portion of text in license agreements is dedicated to prohibiting user rights and capabilities. The selector should carefully examine these sections to assure that their basic assumptions about product access or application are correct. Use restrictions may be hidden in complex definitions or stated simply as use restrictions. Few users are interested in decompiling or reverse engineering the software, yet selectors can expect to find this restriction in any contract applying to software installation. Typical restrictions also prohibit the right to copy the database, reproduce or redistribute the data to third parties, make derivative works, transfer the license, or sell the product.

The definitions provided in the license agreement are as important as the delineation of rights. By examining the definitions, the selector may discover additional use restrictions. A well-known database producer advertises their product as "fully networkable." Yet by studying the definitions at the beginning of the network license, the selector will learn that the network use permitted in later sections is restricted to a local area network within a single building where the product must be located. In fact, any dial-in access is strictly prohibited, even within the designated building. More obvious restrictions are the definition of sites by geographical boundaries or limitation of remote access by certain methods of telecommunication.

**CONTRACTUAL OBLIGATIONS**

Many license agreements include specific actions for which the library is held responsible. The selector must understand the consequences of agreeing to these obligations. It may be easy to identify and agree with a requirement to return outdated CD-ROM discs, restrictions on the assignment of passwords, and the commitment to prevent access to unauthorized users. The selector may have concerns about the library's ability to assure that conspicuous copyright notices appear on each printout. A license agreement granting the provider the right to audit use of the product at any time should be reviewed by administrative, public services, and technical staff before acceptance. It is the selector's duty to identify these obligations and bring them to the attention of those involved in the use of the product. If the terms of the agreement are not acceptable or negotiable, the product should not be acquired.

**CONCLUSION**

Almost two decades ago, Cabeceiras (1978) predicted that, before the end of the century, local libraries would be interconnected via electronic information networks. He anticipated that patrons would have direct and immediate access to information stored on paper, videodisc, microform, or on regional, national, and international databases. Perhaps his most visionary assertion was that the selector's tasks would in-
clude determining what data are to be included, what media format would be selected, and what would, or would not be, preserved. What he could not predict would be the added complexities imposed by license agreements. We are close to the end of the century and continue to struggle with these content, access, use, and archival issues on a daily basis.

Traditional selection policies and procedures could not keep pace with the changes in the technology. The wide diversity of materials—print, audiovisual, CD-ROM, electronic journals, networked databases, and multimedia products—continue to evolve rapidly. As Woodward (1994) asserts, most libraries have introduced electronic information sources in a piecemeal fashion, mostly in response to user demand. Selectors must increase their knowledge of automated systems and electronic communications, their expertise in accessing and testing electronic products, and their skill in understanding and negotiating license agreements.

REFERENCES


ADDITIONAL REFERENCE