

Collection Development of Electronic Resources: A Guideline for Librarians from Selection to Renewal

P. Sankar¹ and Dr. E. S. Kavitha²

¹Research Scholar, Department of Library and Information Science,
Periyar University, Salem, Tamil Nadu, India

²Librarian, SNT Global Academy of Management Studies and Technology, Coimbatore, Tamil Nadu, India
E-mail: amulsankar@gmail.com, kavithaesk@gmail.com

Abstract - This article focuses exclusively on e-resources whether acquired via purchase or license, free from the web, born digital or multiple format materials. E-resources present a number of challenges not encountered with the selection and acquisition of traditional analogue materials and it is advisable for the library to develop clear policies and processes for the selection and management of such resources. These will provide clarity to staff and ensure that e-resources within the library are developed with due consideration of cost, technical feasibility, licensing, access and preservation requirements, and constraints.

1. INTRODUCTION

E-resources represent an increasingly important component of the collection-building activities of libraries. The guide concentrates mainly on academic and research library purposes, but nonetheless will be of high value to many types of libraries. "Electronic resources" 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. Some of the most frequently encountered types are:

1. E-journals
2. E-books
3. Full-text (aggregated) databases
4. Indexing and abstracting databases
5. Reference databases (biographies, dictionaries, directories, encyclopaedias, etc.)
6. Numeric and statistical databases
7. E-images
8. E-audio/visual resources

This document does not cover acquisition, delivery and access management, promotion of resources, reading devices, or user training and support. As a next step the Standing Committee wishes to examine the possibility of producing and publishing a separate guide covering these aspects of e-resource management within libraries. Selection of content for digitisation from the library's own collection is also not considered within this document.

A. Collection Development policy

While traditional collection development criteria, such as subject, level, and target audience apply to the selection of

most e-resources, the management of the electronic format is more complex and, as such, it is good practice to develop a supplementary policy which addresses specific format related issues. Such a policy should be used in conjunction with the more traditional collection development policy and not in isolation. The policy should also provide guidance to assist institutions on format preference when faced with the choice of content available in both print and electronic formats. Considerations relating to format preference, including decisions on de-duplication (i.e. where titles are already acquired in multiple formats), may include, but is not limited to, the following:

1. Currency – e-resources with print equivalents should not lag behind their print counterparts.
2. Value for money – the e-resource should provide sufficient added value over the print equivalent or other analog formats (e.g., increased functionality, increased accessibility).
3. Accuracy and completeness – the e-resource should reflect the identical or increased content as compared with the print equivalent.
4. Duplication – duplication of e-resources with equivalent analog formats may be considered if the electronic publication is not archived and retention is expected; if the cost of duplication is minimal, and multiple formats best meet the needs of different users in terms of access and convenience.

B. Selection and evaluation of e-resources

For analogue library materials, the institution or acquisition librarian makes the decision to acquire an item with only limited consultation with other departments following established policies and guidelines. E-resources present a number of hurdles not encountered with traditional library materials. In addition to the criteria that apply to analog materials, electronic publications raise complex issues around licensing, access, networking, pricing, ownership, and rapidly changing technology and standards. The institution cannot make a decision to acquire an e-resource in isolation and must liaise closely with other departments in the library and beyond to evaluate the suitability of a resource prior to the decision to acquire. Typically this will involve consultation with staff responsible for technical

systems and services, acquisitions, resource discovery (cataloguing and access), contracts and licensing, and service delivery.

1. To ensure consistency of approach, it is good practice to establish clear guidelines and processes for the selection of e-resources. These might include developing a checklist for selection and evaluation; establishing clear roles and lines of responsibility and consultation; and the establishment of an e-resource evaluation panel, which could be composed of a group of e-resource stakeholders from various departments within the institution.
2. To involve users in collection development the library may consider ways in which to receive their input. This could include feedback on potential new resources, as well as feedback on existing resources. The library should also inform users about new e-resource purchases and the improvement of current e-resources.
3. To establish if an e-resource is appropriate for the library's collection and to help determine the true and hidden cost implications of acquisition, storage, maintenance, preservation and other issues, detailed information regarding the item is required.

1. Content

Initially e-resources need to be reviewed and evaluated for selection from a content perspective against the same policies, guidelines and criteria that apply to print resources. Typically such criteria might state that the resource should:

1. Support the main research aims and goals of the organization.
2. Complement or add depth or breadth to the existing collection supported by subject profiles.
3. Be of a certain quality, e.g., peer reviewed, or have a reputable producer.
4. Support the requirements of the/a key audience.
5. Generate an acceptable level of use.

Once the main selections criteria have been met, then a number of additional content criteria, unique to e-resources, need to be considered. These criteria are particularly important in helping to determine the preferred format in which to acquire an item where there is both a print and electronic equivalent. These include the consistency of the electronic publication with any print equivalent, the currency of the online content and frequency of updates, the availability of back issues, archiving, and the added value of the e-resource over other formats, and pricing.

II. TECHNICAL REQUIREMENTS

E-resources present a number of technical issues that need to be considered to ensure resources are compatible with existing library hardware and software and that the library has the capability to provide and effectively maintain access

to resources on an ongoing and cost effective basis. Evaluation should be in consultation with the appropriate technical staff and should include consideration of the following:

1. **Method of Access:** What methods of access are available (e.g., stand-alone, remote via Web, local Web mount or hosting)? Access to remote hosts via Web is often preferable because it provides additional benefits such as faster updating, optimum access, reduced burden in terms of storage, preservation and maintenance.
2. **Authentication:** What methods of authentication are available (e.g., IP filtering, login and password)? Access via IP filtering is often preferable because it typically provides simultaneous access for multiple users. IP-address recognition can also provide access to users via a proxy server, allowing authorized library users to access content from outside the physical confines of the library is an important feature. Access via login and password may be less preferred, as it presents a number of challenges around dissemination and control of passwords, particularly when a library serves a large user base.
3. **Compatibility:** The resource should be compatible across a range of platforms and, where local installation and maintenance are required, should be compatible with existing hardware and software supported by the library. The institution should also determine if the e-resource requires any special hardware, software, multimedia, and/or audio capabilities. Where this is the case, consideration needs to be given to the additional cost of acquiring, installing and supporting the appropriate software or multimedia components. Consultation with staff responsible for reference services may be needed to determine if software or add-on components are required for all or only some of the public PCs before making a selection decision.
4. **Browsers:** The issue of web browsers is very important. Some e-resources only work with certain web browsers or certain versions of web browsers. Occasionally, libraries might have older versions of browsers installed on public PCs, while the databases are designed for the newer versions. UNICODE compliance by browsers and local systems is crucial for adding electronic materials in non-Roman script to the library collection. However, if a institution does not support a particular browser, and is not UNICODE compliant and the institution makes the decision to acquire it, the product will be useless. The library must inform its users about browser requirements, all other requirements, and location of access points.
5. **Content format:** Determination of which formats database files use is important: HTML, SGML, XML, PDF, epub, etc and media formats such as JPEG, MPEG etc. Each of these formats has positive and negative features. In addition, users must have the Adobe Acrobat reader installed on their PCs.

Databases of AV contents require different players or programs to be installed and should allow plug-ins and active controls as well.

III. FUNCTIONALITY AND RELIABILITY

In assessing the suitability of a resource in terms of functionality and reliability issues, the library may find it useful to evaluate the following:

1. Interface – The e-resource interface should be user-friendly, easy to navigate and intuitive. User-friendly resources often include such features as online tutorials, introductory screens, navigation aids and context-sensitive help and personalisation options such as subscribing to feeds/e-mail alerts, save search history etc. The screen design should be easy to read and follow and consideration should be given to the similarity of the resource interface to others already in use and with which users are already. Multi-lingual interfaces are desirable for libraries with a multi-lingual community.
2. Search and retrieval – The resource should offer a powerful, flexible and user-friendly search engine. Common features might include keyword and Boolean searching, full-text searching, truncation, browsing (index and title), relevancy ranking, thesaurus and search history.
3. Search strategies: Particular consideration should be given to how the search engine works. This knowledge will be helpful in determining appropriate search strategies-particularly important when texts are in languages requiring the use of cases, declensional endings, suffixes, and prefixes.
4. Transliteration: Sometimes texts in databases are in Roman script, inhibiting the searching capabilities for subject and resources from other countries that use non-Roman scripts.
5. Diacritics: Many languages use diacritics. The institution needs to check whether diacritical marks affect the outcome of searching.
6. Exporting and downloading: A range of export options such as e-mail, printing, and downloading should be supported. Provision of citation downloads to citation management software such as Endnote, Mendeley, BibTex etc. should be available.
7. Response, reliability and availability – The system should be available at all hours of the day every day. It should be stable with limited evidence of unscheduled downtime. The system should be technologically up-to-date and have the appropriate capacity and network infrastructure to support multiple users and optimum response times.
8. Integration – The system should support integration with other resources via reference and full-text linking. The content should be indexed in discovery tools to facilitate effective discovery and delivery of local and remote resources.

IV. VENDOR SUPPORT

Consideration needs to be given to how well establish and reliable an e-resource vendor is and to the range of technical and user support services they are able to provide. It is useful to determine the range of vendor support services available, including:

1. Trial evaluation and product demonstration: It is preferable for the resource to be available for trial and for the vendor to provide, if required, product demonstrations. Trials are particularly useful in supporting the evaluation process of a product in terms of technical issues and functionality and reliability.
2. User training and support: The vendor should be willing to provide initial and ongoing training, including the provision of documentation or online manuals, in the use of the product. This will help reduce the burden of training and development of documentation that might otherwise fall on library staff, and ensure that products are used effectively.
3. Technical/customer support and system notification processes: The vendor should be willing to agree to service levels in terms of system availability and response times for resolution of technical issues. The vendor should also have an advance system notification process in place to effectively manage and communicate planned downtime, and content and platform changes. Support provided should be timely, professional, and effective.
4. Customization: Consideration needs to be given to the options available from the vendor for customization and branding of the product. This is often helpful in giving products used within the library a similar look and feel.
5. Data archiving: Consideration should be given to how frequently system data is backed up and what will happen to the resource and library patrons' ability to access it if the provider declares bankruptcy, decides to liquidate, or otherwise ceases or transfers publication. If backup data is offered in CD-ROM or DVD format, consideration needs to be given to the library's capacity to manage archiving and access in the proffered format and to the features that might be lost compared to the original resource.
6. Bibliographic data provision: The vendor should be able to provide permanent URLs and bibliographic data in the library's preferred file format. These must adhere to appropriate quality standards, reducing the burden on the library in setting up links or creating catalogue records for access.
7. Statistical reporting: The availability of quality statistical data is important in understanding how well resources are used and how cost effective they are compared to other products. This is particularly important in supporting renewal and de-selection decisions.

V.SUPPLY

As there is with print materials, there is no standard model for the packaging and pricing of electronic publications. It is important to consider the range of purchase/pricing models available and determine which one best meets the needs of the library in terms of access, archival rights, and value for money.

a. Purchase models and pricing: Institutions should carefully review the pricing models available for the resource under consideration as there is no standard pricing model for e-resources. Pricing models are often based on a number of criteria and variables such as the size of the user population and the number of simultaneous users. One important pricing model for subscription- based electronic journals, packages of e-books, databases, and, other similar resources is based on full-time equivalent. It is recommended that where print copies are available, libraries should compare the cost of the electronic copy against that of the print version. If the price of the electronic version is higher than that of the print version, then the library should consider the additional benefits the electronic copy would bring over the print.

b. Separate pricing for content and access: It is preferable in the case of the subscription fee for content that this includes permanent rights to use the information that has been paid for, should the resource be cancelled in the future. Having separate fees provides clarity to ongoing annual costs to continue to access content for which the library has previously paid. The anticipated annual price increase of any access/hosting fee should be determined.

1. Combined model mean a one-off archive fee and an annual access fee for more current content.
2. Pay-per-use pricing.
3. Rental models.
4. Consortia pricing.
5. Print plus electronic where the publisher requires the purchase of both formats.
6. Packaged pricing which requiring purchase of a specific group of titles
7. Big deal where all of a given publisher's content is made available for a price and not just the content the library has actively selected.
8. Introductory pricing where an introductory price is offered consideration needs to be given to future affordability if the price increases substantially after the introductory period
9. Multi-year deals with fixed price caps.
- 10..Patron-Driven Acquisition pricing models such as purchase based on usage triggers, including number of views or length of use of the items.

c. Number of users and sites: The number of users and sites is likely to have an impact on pricing. The number of users required in a multi-user licence should be

based on anticipated demand. Numbers based on FTE should be based on the size on the actual user group and not the total user population. This is particularly important in selecting specialised resources with a specific and limited target audience.

- d. Backfiles, archiving and post termination rights - The purchasing or leasing of electronic data should include provision for perpetual access to those data. Following any termination of the license agreement, the institution perpetual electronic access to the previously subscribed content should be guaranteed.
- e. Cancellation rights: The consideration needs to be given to the terms and conditions around cancellation. This might be cancelling a bundled deal and moving to selected content or moving to outright cancellation or cancellation of linked print products.
- f. Invoicing: Separate invoicing for individual members should be available where purchase is as part of a consortium. Pricing should be transparent, with content and access fees clearly indicated as separate costs.
- g. Renewals: The vendor should notify the library at least 2 months in advance prior to the subscription renewal date. Where the renewal is as part of a consortium subscription, the consortium should seek confirmation from the individual library prior to renewal.

VI. LICENSING CONSIDERATIONS FOR E-RESOURCES

Unlike print publications, e-resources are not purchased outright and usually require a license agreement to be in place. Prior to purchase, the license must be reviewed and negotiated to inform and support the evaluation process, and to ensure that it reflects the institution's expectation. It is preferable to obtain, where possible, a standard model license agreement that describes the rights of the library in easy-to-understand and explicit language.

A. Access concerns

It is recommended practice that the following points governing access by a library's patrons must be included in any licensing agreement which a library, its governing institution, or its consortium signs.

- a. Authorized Users and Sites "Authorized Users" and "Authorized Sites" should be defined as broadly as possible. "Authorized users" are all persons with a current, authenticated affiliation with the subscribing institution(s). This could include full- and part-time students and employees (faculty, staff, affiliated and visiting researchers and independent contractors). Visitors who have permission to use the institution's publicly available computers should have access to the licensed resource. This is commonly known as „walk-in use". "Authorized sites" should include all sites including satellite facilities in different geographic locations. Authorized users should also have access to the licensed resource from home offices or any other

remote location, through the use of a proxy server or other IP-authenticated protocol as provided by the subscribing institution. This is commonly referred to as remote use.

- b. Method of access - Access should be permitted via IP authentication for the entire institution(s), including simultaneous access for multiple users, in different geographic locations, and sites. Such access should be provided without requiring the use of a password or other code.
- c. Archiving policy and perpetual access - The resource provider should present a clearly articulated archiving policy for the information being licensed. The resource provider should have an arrangement with LOCKSS, Portico, or other similar types of archival products, or with an open source compliant archiving system. The provider should grant access to the licensed content of the resource for the mutually agreed time period. The purchasing or leasing of electronic data should include provision for perpetual access to that data. Following any termination of the license agreement, the institution's perpetual electronic access to the previously subscribed content should be guaranteed.
- d. Institutional archives/self-archiving -The resource provider should allow an individual institution or author to upload work to their Institutional Repository either in pre- or post-print format. Preferably, the resource provider should permit and provide the post-print version of the work which appears in the resource provider's publications.
- d. Course packages: Use of the information content from the e-resource should be permitted in course packs and other material of an educational nature, as compiled for a restricted set of authorized users.
- e. Course reserves: Electronic copies of articles or a discrete portion of the information content from the e-resource should be permitted to be included in a library's course reserves (print or digital), as requested by an instructor for a restricted set of authorized users in conjunction with specific courses.
- f. User statistics: The information provider should provide statistics for each library's use directly to the library participating individually or as a member of a consortium. In the case of a consortium, aggregated statistics for the consortium should be delivered to the consortium's administration.
- g. Liability for unauthorized use: The license should reflect realistic expectations regarding the library's ability to monitor and trace unauthorized use.
- h. Privacy and Confidentiality of User information: The license should ensure the privacy and confidentiality of the users' information when accessing the e-resource, including information that is collected from users to create a personal account on the resource.

B. Use of the electronic information resource

The license should permit fair use (fair dealing, etc.) of all information for educational, instructional non-commercial and research purposes. The following considerations regarding fair use, user statistics and liability for unauthorised use should be addressed in any licensing agreement which a library, its governing institution, or its consortium signs:

- a. Interlibrary loan (ILL): Interlibrary loan should always be permitted. At a minimum, FAX or postal dispatch of photocopies of printed electronic articles should be allowed. Use of secure ILL document transmission systems, such as Ariel or other similar protocols, for lending to other libraries should be allowed.
- b. Pay-per-view: Service to access articles which are not available in the library's print or online collections. It should be possible for the library to purchase the article and send it to the patron via email. Pay-per-view is not a replacement for ILL.
- c. Viewing, downloading and printing: Authorized users should be allowed to view and print copies and to download electronic copies of single articles from the e-resource for private use, in line with 'fair use' (fair dealing, etc.) provision in the applicable governing copyright law.
- a. Linking service: The resource provider should inform the library if the content in the resource is available via a link server or link resolver. Information should also be provided on how the standard Open URL is supported. This applies to both linking to the content in the resource via the Open URL and linking from the resource content to a link server.
- b. Content consistency: The resource provider should be obliged to disclose if the information content of the offer in question differs from what is available via the linking service.
- c. Bibliographic data: The resource provider should provide an electronic file with bibliographic information for input to the library's OPAC. This file shall describe the content of the resource (cataloguing data) and shall be delivered in a correct format. The library defines the demanded data quality of the bibliographic description and the required file format.
- d. Commencement date: The license period should not commence before the resource provider has provided catalogue data, as specified by the library, in correct format. Unacceptable data quality may entitle the library to a reduced price for the information content.
- e. System integration: The resource provider should inform the library as to what extent it is possible to

C. Vendor support and technical considerations

The following vendor support and technical considerations should be addressed in any licensing agreement which a library, its governing institution, or its consortium signs:

link to holdings information and ordering functionality in the library's online information system.

- f. Technical support: The resource provider should provide contact information which the library can use for technical support.
- g. Notifications process: The resource provider should routinely inform the library of significant changes in content of the resource. Significant content changes include notification of new, ceased or changed titles or changes in the number of volumes available. Such information can be submitted via SFX updates (or via similar linking services) or by means of online mailings.
- h. Customer support: The resource provider should provide sufficient customer support to the library or to each participating member library, if in a consortial agreement.
- i. Web browser accessibility: The information resource should be accessible via use of a standard web browser (e.g., Chrome, Internet Explorer, Netscape, Mozilla, Opera, Safari, etc.) and with capabilities for standard document formats such as HTML or PDF. It is recommended that the resource be readily accessible and usable by individuals with disabilities and comply with relevant disability legislation.
- j. Documentation: The resource provider should provide online help screens and/or online user documentation manuals.
- k. Guaranteed up time: The information provider should guarantee up time of more than 99% to the resource during the term of the license agreement. Significant interruptions to access that can be documented by the library or consortium should entitle the licensing agency to reduced licensing fees or to an extension of the license agreement commensurate to the amount of excessive down time.
- l. Compatibility with library systems: The information resource should be able to be indexed or catalogued in library online systems, including discovery tools and other finding tools.
- m. Linking to the e-resources: The resource provider should provide stable links to the information in the resource. Methods can include a permanent direct link to a specific resource, and one common example is using DOI (Digital Object Identifier).

D.Flexibility and enhancements

The following considerations should be addressed in any licensing agreement which a library, its governing institution, or its consortium signs:

Cancellations: The institution needs to ensure that there is no non-cancellation clause and must be clear about the period of notice that must be given to cancel or terminate a subscription or agreement and any restrictions around how

many payments must be made before cancellation or termination can be undertaken.

The following apply where print and electronic versions are available:

- a. Cancellations: The information provider should allow cancellation of a library's or a consortium's existing print subscriptions to facilitate migration to e-only versions of journals or other information resources.
- b. Value for money: The price of the electronic version should be the same or less than the print equivalent. Any increase in price should be reflected in an increase in functionality and accessibility.
- c. Consistency with print equivalent: The electronic version of an information resource should have the same or better visual quality as the print original, including graphs, charts and illustrations.
- d. Availability: The electronic version of a serial e-resource should be available no later than the printed version.
- e. Drop-out clause: It should be explicitly acknowledged that withdrawal from the license agreement is possible at the start of each calendar year or of the library's or consortium's fiscal year. The library or consortium should provide sufficient advance notice, as defined in the license agreement, of any intended withdrawal or cancellation.

E.Legal Issues

The following legal issues should be addressed in any licensing agreement which a library, its governing institution, or its consortium signs. It is generally advisable that the library or consortium consult with its legal counsel before any major license agreements are signed, if such review is not already legally or procedurally mandated at the institutional level.

- a. Terms of payment: The library's or the consortium's payment liability should commence from the date that the access is agreed upon by the library and the resource provider and the provider has actually provided access to the information resource content in the specified format.
- b. Grace period: The resource provider shall maintain access to the library or consortium for a grace period of at least one month at the start of each license year, if the renewal payment has not been received.
- c. Governing laws: The license agreement between the resource provider and the library or consortium should not restrict any legal rights of the library or consortium according to the governing laws of the library's or consortiums legal jurisdiction (province, state, country).
- d. Resource providers' authority to provide access: The licensor should guarantee that it has all necessary rights to license the resource for the purposes outlined in the agreement.

- e. Language of license agreements - The licensor should know that many international companies produce their agreements in English. If you do not have expertise in English for legal documents at your library, you should consider requesting the agreement in another language.

VII. REVIEW AND RENEWAL PROCESS

Given the rapidly changing nature of technology, the emergence of new offerings from information providers in terms of the pricing and packaging of content, and continued pressure on library budgets, it is essential that libraries regularly review their e-resources to ensure they continue to be relevant and provide demonstrable value for money. Like other continuing resources, e-resources will not always have a uniform renewal date, as subscriptions or leases may run for one or more years from any particular date on the calendar. The library should ensure that as part of the license agreement, the vendor is required to provide sufficient advance notification in relation to renewals to allow for sufficient lead time to undertake an effective review of the resource. This is particularly important if the library has a large number of significant renewals due on or around the same time.

A. Review of usage data

The library should review available usage statistics to help determine if the use of the resource, when considered alongside the associated costs, justifies retention and renewal of the resource. Usage statistics should be helpful in determining:

- a. If the resource continues to be relevant to library users.
- b. Usage trends in specific areas – Is usage increasing or decreasing as compared to previous years or in comparison to other products in a similar area.
- c. How the resource compares to other resources in terms of cost per use.
- d. If the resource continues to represent value for money.
- e. If other options for access might be more cost effective (e.g., pay per view, selected content vs. package deal).

- f. If the number of simultaneous users is set at the appropriate level.
- g. The relevance and usage of current content vs. backfile content.

B. Other renewal considerations

- a. Changes to information provider.
- b. Changes in operating platform.
- c. Changes in access provision.
- d. Changes to pricing.
- e. Changes in access to backfiles.
- f. Changes to the license.
- g. Changes to packaging/content available.

VIII. CONCLUSION

The purpose of this Guide is to help develop an awareness of the key issues that every library will need to consider and address in developing an e-portfolio. The Guide is not intended to be exhaustive, but is written to provide a reasonable and informed introduction to the wide range of issues presented by e-resources.

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