

Recommended Practices: Discovery Services

1. Purpose

The National Federation of Advanced Information Services (NFAIS™) believes that the ease of discovery, access, and use of trustworthy, high-quality information benefits not only its member organizations, but also the global community of information seekers. NFAIS encourages the development of any new technologies, such as Discovery Services, that are intended to support such an objective. However, the relative newness of these services has generated questions and concerns among Content Owners and Librarians regarding how they meet search and retrieval needs and expectations. These recommended practices have been developed to assist those who choose to use this distribution channel by providing guidelines that will help maintain an equitable balance of the interests of all participants in the information distribution process.

These Recommended Practices were developed to be the ideal towards which the Information Community should strive as technology advances, even if today's technology presents barriers to full implementation. (For the purpose of this document Discovery Services are defined as those that provide a "single search box" to access a central index of pre-indexed metadata and/or full-text – see Appendix A).

- 1.1 It is the intent of NFAIS that these Recommended Practices will contribute to an awareness of the issues surrounding Discovery Service relationships and that it will create an understanding of how these issues affect each participant in the relationship.
- 1.2 It is expected that these Recommended Practices will be widely adopted by the active participants in Discovery Service Relationships, particularly as a point of reference in the development of contractual agreements. These Recommended Practices do not offer a model contract, but rather provide a set of guiding principles from which contractual terms can be negotiated.
- 1.3 Readers of these Recommended Practices should be aware that NFAIS is an organization that was established to foster the global dissemination of scientific, scholarly and technological information and is comprised of database producers, publishers, subject index providers, content aggregators, distributors, and librarians. NFAIS recognizes that Discovery Services serve as one of several distribution channels for the broadening of information dissemination. And while participation in a Discovery Service may not be an appropriate business decision for all types of information providers (see Appendix B) nor cost effective for all libraries and information centers, this document has been developed to assist those who are considering or who have already chosen to participate through the provision of guidelines that will help avoid the disruption of the delicate balance of interests involved.
- 1.4 Acceptance of these Recommended Practices will help facilitate full disclosure and transparency for the ultimate benefit of information seekers so that they will be able to know the parameters of the information that they are searching and to which they have access, and to become aware of the complex relationships among the participants in any Discovery Service arrangement.

1.5 These Recommended Practices are arranged as follows:

1. Purpose
2. Background
3. Discovery Service: Issues and Concerns
4. Rights and Obligations

Supporting information appears in the Appendices (Appendix A: About Discovery Services; Appendix B: Business Considerations; Appendix C: Glossary).

2. Background

Sophisticated telecommunications networks and software systems for the online retrieval of information are integral to academic, corporate, and government search and retrieval infrastructures. A new layer of complexity has been added with the introduction of information discovery services.

- 2.1 A Discovery Service can be broadly defined as a link between the information User and the Platform on or location at which the information resides (see examples in Appendix A). However, for the purposes of this document, a Discovery Service is defined as one that provides a “single search box” to access a central index of pre-indexed metadata and/or full-text.
- 2.2 The content that is pre-indexed is harvested from both remotely and locally held repositories to create a searchable broad central index of robust metadata. This is done via agreements with Content Owners who may license access to their metadata and/or full text for indexing purposes directly or through a Content Aggregator, via access to open collections and repositories, and via agreements to access local library resources and special collections. The central index allows for rapid search and retrieval of information resources to which a library has right of access within their own holdings or through shared/open resources and interlibrary loan and is integral to the discovery service infrastructure.
- 2.3 Discovery Services are intended to increase the awareness and usage of the holdings and information resources to which a library has right of access. In order to best serve their Users, libraries invest significant financial resources to purchase and/or lease this essential, high-quality information and may perceive Discovery Services as tools through which they can maximize information usage and receive a strong return on their financial investment in content.
- 2.4 Content Owners incur significant costs in creating, indexing, abstracting and otherwise enhancing content in order to create high-quality, trustworthy information for scholars and researchers. Access to this content via Discovery Services has the potential to increase product usage and brand awareness.
- 2.5 Technological advances are impacting all members of the information community. Changes in User expectations and in the roles of libraries are driving the creation of new and better search and retrieval capabilities and functionalities. The collaborative development of these Recommended Practices by all players in the information chain will guide the successful navigation of this rapid and continued evolution of the information landscape.

3. Discovery Services: Concerns and Issues

The governing framework for the Information Community is based upon a set of legal, bilateral agreements that establish the rights and obligations of the various entities within the information distribution channel. With Discovery Services being in the early stages of their life cycle, concerns and issues that are unique to this distribution channel have arisen among Content Owners, Subscribers and Users. It is the intent of this document to provide Recommended Practices that will lessen or eliminate

these concerns and issues when used in the drafting of Discovery Service Agreements. The specific concerns and issues to be addressed are:

- 3.1 Content that is licensed to a Content Aggregator (Platform) for use in a product other than the Discovery Service may inadvertently be included in the Discovery Service.
- 3.2 Subscribers and Users may derive access to information for which they have no license or contractual agreement due to lack of user authentication/verification and/or the inability to reliably identify an institution's holdings.
- 3.3 Subscribers and Users may not get full access or use of information to which they have rights.
- 3.4 The Subscribers and Users may unintentionally abuse intellectual property rights because the usage terms and conditions are not readily available.
- 3.5 Subscribers and Users may place an incorrect value on search results for a variety of reasons such as:
 - a. The depth, breadth, and source of the content included in a Discovery Service's central index are not clearly defined in the product description. (Note that the type, breadth, and depth of content provided vary across Content Owners based upon the individual contracts between the Content Owner(s) and the Discovery Service(s)).
 - b. Subscribers and Users may be unaware of the wide diversity of resources indexed, returning a mix of results from scholarly and non-scholarly sources including current news, trade press, peer reviewed journals and more in any one search result.
 - c. Subscribers and Users may lack a clear awareness of the accuracy and currency of the content included in a Discovery Service's central index. (Note that these factors can vary with the individual contracts agreed to by the Content Owner(s) and the Discovery Service(s) with regard to the timing of updates and the ability of the Discovery Service to correct and/or remove errors).
 - d. Subscribers and Users may lack knowledge and understanding of the ranking algorithms used to present search results.
 - e. Subscribers and Users may be unaware that Discovery Service default settings can be modified to set institutional preferences for the search parameters (including what content types are searched or ignored) and the result rankings.
 - f. Subscribers and Users may be unaware of the limitations on what can be displayed in search results (e.g. Content Owner limitations, customization of the Discovery Service implementation by the Subscriber, etc.).
- 3.6 Subscribers and Users may not be able to link directly from search results to a specific database that they license if that database resides on the Platform of a Content Aggregator.
- 3.7 Subscribers and Content Owners may not be able to accurately evaluate changes in information usage from pre- to post-Discovery Service implementation due to the type of system used prior to implementation and/or differences in or lack of usage reports.

- 3.8 Subscribers and Content Owners may not accurately measure the value provided through their participation in a Discovery Service arrangement in the absence of accurate and detailed usage reports.
- 3.9 Subscribers and Users may not properly value the content available in the Discovery Service in the absence of accurate and detailed usage reports.
- 3.10 Content Owners, especially Owners of abstracting and indexing services, may lose market awareness of the value-add that they create if their brand identity is obscured, if the ranking algorithms used to present search results do not place sufficient weight upon high-quality subject indexes, and if the default settings of the Discovery Service are set to ignore certain types of content.
- 3.11 Content Owner branding may be obscured by “super” or merged records delivered to Subscribers and Users. Depending upon the algorithms in place, delivery of such merged records may (1) offer an imperfect reflection of actual usage; (2) make it more difficult for Users to recapture a specific valuable item from a previous search; and (3) obscure the value derived from searching a subject-specific resource database rather than the more general Discovery Service.

4. Rights and Obligations: Recommended Practices

In this section the term “Rights” is defined as information or services that participants in a Discovery Service arrangement should receive and the term “Obligations” is defined as the information or services that participants should provide. “Rights” and “Obligations” are not distributed evenly among the participants. This is due to their differing roles in the various processes involved in a Discovery Service arrangement. A “Right” may be waived by the entitled person; an “Obligation” should not be ignored without such a waiver. (*Note: where Rights and Obligations are defined by a contractual agreement, the term “should” is to be replaced by the term “must”*).

- 4.1 There are five participants in a Discovery Service arrangement. They are:
 - 1) The Content Owner who has proprietary rights to the content used to create the unified index. The Content Owner can host the content on their own Platform and/or enter into a contractual agreement with a Content Aggregator who provides the Platform. The Content Owner may also be an author, library, repository or other institution that provides contractual or open access to their holdings.
 - 2) The Platform that hosts the content. This can be the Content Owner and/or a Content Aggregator that has a contractual agreement with the Owner.
 - 3) The Discovery Service, as already described in the Purpose, Section 2.1, and Appendix A,
 - 4) The Subscriber to a Discovery Service, and
 - 5) The User of a Discovery Service. While the user is involved in the relationship and has certain rights and obligations, he/she is not a participant in the business arrangement unless that user also plays another role such as Subscriber or Content Provider.

It is important to remember that a participant can play multiple roles. For example, a Content Owner can be a Platform; a Discovery Service or a Subscriber (library) can be a Content Owner; a Library (Subscriber) can also be a User, etc. As a result, Discovery Service arrangements are complex and contractual agreements must be carefully crafted.

4.2 The major "Rights" and "Obligations" can include the following:

- I. Inclusion of only contractually agreed-upon content
- II. Limitation of content access to authorized Subscribers and Users
- III. Navigation to appropriate authorized content
- IV. Identification of content ownership
- V. Identification of Platform(s)
- VI. Identification of content retrieved
- VII. Clarification of ranking algorithm
- VIII. Full disclosure of content used to create the central unified index
- IX. Description of Discovery Service Components
- X. Provision of accurate and high-quality content/services
- XI. Provision of updates/corrections
- XII. Provision of usage reports
- XIII. Identification of User(s) at the Institutional Level
- XIV. Compliance with usage restrictions
- XV. Changes to Discovery Service Components
- XVI. Privacy
- XVII. Monitoring of Content
- XVIII. Education/training on Discovery Service functionalities

4.3 The matrix shown below visually describes the distribution of the Rights and Obligations as identified in these Recommended Practices. The symbol "R" is used to indicate where a Right resides, and the symbol "O" is used to indicate where an Obligation resides. These "Rights" and "Obligations" can be conferred exclusively on one participant according to their nature, or they can be attributed to more than one participant in a Discovery Service arrangement. In a number of cases a Discovery Service participant may have both a Right and Obligation associated with a particular issue. Narrative descriptions of the Rights and Obligations as well as the rationale used to assign them follow the matrix.

	Content Owner	Platform	Discovery Service	Subscriber	User
I Inclusion of only contractually agreed upon content	R	O	O	R	R
II Limitation of content access to authorized Subscribers/Users	R	R/O	O	R/O	R
III Navigation to appropriate authorized content	R	R/O	O	R	R
IV Identification of Content Ownership	R/O	R/O	R/O	R	R
V Identification of Platform(s)	R/O	R	R/O	R	R
VI Identification of content retrieved	R/O	R/O	R/O	R	R
VII Clarification of ranking algorithm	R	R	O	R	R

	Content Owner	Platform	Discovery Service	Subscriber	User
VIII Full disclosure of content used to create the central unified index	R/O	R/O	R/O	R	R
IX Description of Discovery Service Components	R/O	R/O	R/O	R	R
X Provision of accurate and high-quality content/services	R/O	R/O	R/O	R	R
XI Provision of updates and corrections	R/O	R/O	R/O	R	R
XII Provision of usage reports	R	R/O	O	R	NA
XIII Identification of User(s) at the Institutional Level	R	O	O	R/O	NA
XIV Compliance with usage restrictions	R	R/O	O	O	O
XV Changes to Discovery Service Components	R/O	R/O	R/O	R	R
XVI Privacy	O	O	O	R/O	R
XVII Monitor Content	R/O	NA	O	NA	NA
XVIII Education/training on Discovery Service functionalities	R	NA	O	R/O	R

4.4 Description and Rationale

I. *Inclusion of only contractually agreed-upon content*: A Content Owner may license content to a Content Aggregator for discovery on their Platform. If that Aggregator also offers a Discovery Service, the Content Owner has the right to expect that content licensed for distribution on the Platform is not included in the Discovery Service without the Content Owner's express written permission. If that Aggregator is also a Content Owner who licenses their own content to a Discovery Service, they have an obligation to ensure that only the content that they themselves own is delivered to that service. The Discovery Service has an obligation to ensure that only the content that is contractually-agreed upon with the Content Owner is delivered by the Discovery Service and that all of the contractually-agreed-upon content is included in the service.

II. *Limitation of content access to authorized Subscribers/Users*: A Discovery Service is a tool to provide ease of access to the holdings and information resources to which an institution has right of access. These holdings and resources can be open access information and/or content that the institution has purchased or licenses and is therefore authorized to use. A Content Owner has the right to restrict access

to only that content that is either purchased or licensed by an institution and a Discovery Service has the obligation to use reasonable efforts to prevent access by unauthorized users.

III. *Navigation to appropriate authorized content:* The same Content is often made available on multiple platforms in order to provide institutions with software, search, and packaging options. The Subscriber and User have the right to be able to seamlessly navigate directly to an appropriate authorized Platform of their choice from the search results retrieved by using a Discovery Service. The Content Owner and the Platform(s) have the right to expect that the content will be directly available from the User's authorized Platform(s) of choice. The Discovery Service has an obligation to provide seamless links to the Subscribers/User's authorized platform(s) of choice directly from the search results retrieved by using the service.

IV. *Identification of content ownership:* The ownership of content must be readily identifiable throughout the Discovery Service relationship to ensure intellectual property and copyright protection. The Subscriber/User has the right to know this information and the Content Owner has the right to expect that the Platform and the Discovery Service will disseminate the information.

V. *Identification of Platform(s):* Platform(s) that have a license agreement with both the Content Owner and the User of that content have a right to be identified to all other participants in a Discovery Service arrangement when content on that Platform is accessed. A Discovery Service provider has the obligation to inform Subscribers and Users of which Platform is being utilized and has the right to be notified if any Content Owner in a Discovery Service arrangement licenses their content to another Platform.

VI. *Identification of content retrieved:* Any content accessed in a Discovery Service arrangement must be identified by the name(s) that are approved by the Content Owner. The name(s) may apply to a single title, a package, or a database. These names are the established brands of the Content Owner and convey to the User an accurate and complete level of coverage, value, and credibility of the content. Discovery Service providers have the right to receive these names from the Platform(s) and/or Content Owners and have the obligation to display the names to the Subscribers and Users. Content Owners have a right to a reasonable display of brand identification.

VII. *Clarification of ranking algorithm:* The System algorithms used to rank results vary, with each approach providing different rank orders depending upon how the algorithm ranks different content types (e.g., full-text, abstracts, index terms, etc.). Subscribers, Users, and the Content Owner have a right to a clear, high-level description of the ranking algorithm used by the Discovery Service in order to understand the type of information, if any, that is given a priority. The Discovery Service has an obligation to provide such a description.

VIII. *Full disclosure of content used to create the unified central unified index:* Subscribers and Users expect that the central, unified index created by a Discovery Service will deliver comprehensive search results. However, the content used to create these indexes is harvested from resources that are inconsistent in their breadth and depth of coverage. In addition, Subscribers are able to limit search and retrieval to specific content types by changing the default settings of a Discovery Service. Users, as well as Subscribers and Content Owners, have a right to full disclosure on the source of the information used to create the central index and an accurate and specific description of its content (types of documents used, journal titles, years of coverage, level of indexing, etc.). Discovery Services have an obligation to provide full disclosure on the content of their index (see details in Appendix B). Users also have the right to know if the default settings of the Discovery Service have been set to limit searching to specific content types and the Subscriber has an obligation to inform the User of those limitations.

IX. *Description of Discovery Service Components:* Any promotional description, by whatever means, of a Discovery Service or any component thereof must be accurate and should be reviewed with and approved by the Content Owner(s) whose brand(s) are used in such promotional material prior to release. Every participant in a Discovery Service arrangement has the right to receive such accurate data. To fulfill the right requires that each Content Owner, Platform, and Discovery Service provider in the arrangement

assume the obligation of providing appropriate information, including accurate and full descriptions to all of the other participants.

X. *Provision of accurate and high-quality content/services:* The content and services provided by any participant in a Discovery Service arrangement must adhere to the standards for quality and accuracy that are publicly described by each player. Each participant in a Discovery Service arrangement has the right to receive content and services that adhere to such publicly-defined standards. Content Owners, Platforms and Discovery Service providers have the obligation to provide such data and services to one another and to the Subscribers/Users.

XI. *Provision of updates/corrections:* The regular delivery of and timely access to information must be in accord with the specific, predetermined agreements that exist between participants in a Discovery Service arrangement. It is the obligation of both the Content Owner and/or the Platform to provide such timely access to the Discovery Service provider. It is the right of the Content Owner, the Platform, the Subscribers and Users to expect that the Discovery Service will perform the updates in accordance with their predetermined agreements. Subscribers should be informed if the Discovery Service is unable to ingest updates provided by the Content Owner.

XII. *Provision of usage reports:* In a digital information environment, Content Owners, Platforms, and Purchasers have come to rely on the metrics provided by usage reports to make critical business decisions on such issues as product development, collection development, etc. Relevant industry standards have been developed to facilitate the recording and reporting of online usage statistics in a consistent, credible and compatible way. Content Owners, Platforms, and Subscribers have a right to receive such standards-compliant usage reports from a Discovery Service on a timely basis and the Discovery Service has an obligation to provide such reports.

XIII. *Identification of User(s) at the Institutional level:* User information at the institutional level for mutual customers of a Content Owner and Discovery Service must be recorded and conveyed along the Discovery Service chain. It is the obligation of the Platform and the Discovery Service provider to convey such user information to the Content Owner.

XIV. *Compliance with usage restrictions:* The permitted uses of content are predefined by the Content Owner and cannot be extended beyond the scope of such definition by any other Discovery Service participant. The Platform and Discovery Service provider are obliged to disclose to the Subscriber and User the authorized use(s) of information. The Platform, Discovery Service provider, Subscriber, and User are each obliged to observe the rights of the Content Owner by complying with Owner's terms and conditions for the use of their proprietary content.

XV. *Changes to Discovery Service Component(s):* Any significant changes to a Discovery Service component, such as major changes to a ranking algorithm, must be fully and promptly disclosed by the participant making the change. Every participant in a Discovery Service arrangement has the right to receive such information. To fulfill this right requires that each Content Owner, Platform, and Discovery Service provider in the arrangement assume the obligation of providing appropriate information to all of the other participants.

XVI. *Privacy:* The User of a Discovery Service has the right to a secure and safe search experience in which their privacy is maintained. It is the obligation of both the Discovery Service and the Platform to abide by established industry standards for ensuring and maintaining such privacy within the context of online searching, website usage, etc.

XVII. *Monitor Content:* A Content Owner has the right and obligation to audit how their content is displayed in a Discovery Service and a Discovery Service has an obligation to provide such access to the Content Owner's information if contractually agreed upon.

XVIII. *Education/training on Discovery Service Functionalities*: The default settings and other functionalities of a Discovery Service can impact what content is searched and ultimately displayed. The Subscriber has the right to receive training on the Discovery Service in order to fully understand its potential impact on the search and retrieval of the Subscriber's holdings. The Discovery Service has an obligation to the Subscribers, Users, and the Content Owner to provide such education/training. The Subscriber has an obligation to its Users to ensure that the Discovery Service implementation provides optimal search, retrieval, and display of the content to which the Subscriber has authorized access.

4.5 It must be clearly understood that while a Right may be waived by the entitled party, an Obligation cannot go unfulfilled unless a specific waiver is obtained.

Appendix A

As noted in section 2.1, a Discovery Service can be broadly defined as a link between the information User and the Platform on or location at which the information resides. Discovery Services have evolved from print-based abstracting and indexing compilations, reference works, and card catalogs to the current digital versions of these tools. And the broad definition can be applied to just about any current search service, including host systems such as ProQuest Dialog™, SciFinder®, STN®, Web of Knowledge(SM), EBSCOhost, LexisNexis®, Ovid Technologies, Google, Yahoo!, etc. Even a reference librarian or information consultant fits the definition.

But in today's context, and for the purpose of this document, the term "Discovery Service" is most often applied to services that offer a simple search interface to pre-indexed metadata and/or full text documents and are integrated with other content, such as a Library OPAC¹. These services do not usually search "live" information sources, but rather they create a comprehensive central index ("unified index") of pre-indexed content that is harvested from both remotely and locally held repositories in order to speed the search and delivery of information. Examples of these Discovery Services include EBSCO Discovery Service™, Ex Libris' Primo Central, Summon™ from Serials Solutions, and OCLC's WorldCat® Local. It is primarily on these services that these Recommended Practices are focused.

For more information a brief bibliography on today's discovery services is as follows:

Asher, Andrew D., Lynda M. Duke, and Suzanne Wilson, in press, "Paths of Discovery: Comparing the Search effectiveness of EBSCO Discovery Service, Summon, Google Scholar, and Conventional Library Resources." *College & Research Libraries*. Anticipated publication date, July 2013. Preprint available at <http://crl.acrl.org/content/early/2012/05/07/crl-374.full.pdf>.

Baldwin, Dee, Kucsak, Michael, Eng, Alice, "Don't Touch that String! There Went the Databases," http://www.sla.org/PDFs/IOonline/IO_2012_ContribPaper.pdf (foundation of a presentation given at the 2012 Special Libraries Association Annual Conference in Chicago, IL on July 16, 2012).

Kelley, Michael, "Stakeholders Strive to Define Standards for Web-Scale Discovery Systems," *Library Journal*, October 24, 2012.

Way, Doug, "The Impact of Web-Scale Discovery on the Use of a Library Collection," *Serials Review* 36, No.4 (2012): 214-20.

Somerville, Mary M. (Univ. Colorado-Denver), Schader, Barbara J. (Univ. California-Riverside), Sack, John (Highwire Press), *Improving the Discoverability of Scholarly Content in the 21st Century: Collaboration Opportunities for Librarians, Publishers, and Vendors* (A White Paper commissioned by SAGE available at: <http://www.sagepub.com/repository/binaries/librarian/DiscoverabilityWhitePaper/>).

¹ Federated Search Blog, July 19, 2009, <http://federatedsearchblog.com/2009/07/19/discovering-discovery-services/>

Luther, Judy, Kelly, Maureen, "The Next Generation of Discovery," *LibraryJournal.com*, March 15, 2011, http://www.libraryjournal.com/lj/home/889250-264/the_next_generation_of_discovery.html.csp.

Vaughan, Jason, "Web Scale Discovery Services," *Library Technology Reports*, Vol. 47, No. 1, January 2011 (American Library Association: ISSN 0024-2586).

Rowe, Ronda, "Web-scale Discovery: A Review of Summon, EBSCO Discovery Service, and World Cat Local," *The Charleston Advisor*, July 2010.

Quint, Barbara, "The Undiscovered Discovery," *Information Today*, Vol. 27, No. 7, Jul/Aug 2010.

Ekins, Andy, Koster, Lukas, *Unified Resource Discovery Comparison*, <http://sites.google.com/site/urd2comparison/>, an online list of articles, debates, presentations, etc.

Appendix B

A unique feature of today's Discovery Services is the creation of a central index against which the searches are actually conducted. The index is created to provide a search process that is purportedly faster than the process offered by federated searching. The content used to create the central index is harvested from both remotely and locally held repositories. This is done via agreements with Content Owners who may license access to some or all of their metadata and/or full for indexing purposes, via access to open collections and repositories, and via access to local library resources and special collections for the same purpose. Once harvested the content is then pre-indexed to create a comprehensive central index.

Content Owners may or may not choose to provide Discovery Services with access to their information depending upon individual business considerations related to the type(s) of content that they create (full text, index terms, abstracts, etc.) and the distribution channels that they use. For example, Content Owners of full-text have the potential for an upside in increased awareness and/or revenue if searchers ultimately link to their full-text. Abstracting and indexing services risk decreased awareness and usage if a Discovery Service applies unfavorable weightings to index terms and abstracts in their ranking algorithm. And all Content Owners risk loss of brand awareness as a result of merged records and the extent to which a Discovery Service is able to provide adequate branding within the limited screen space available. The level of risk may be increased for Content Owners who rely totally on third parties for distribution and lack their own platform with which to drive awareness, branding and usage.

Surveys of NFAIS member organizations that were done in 2012 and again in 2012 indicate that Content Owners of full-text as well as Content Owners of abstracting and indexing services view Discovery Services as both a threat and an opportunity (see: http://info.nfaiss.org/info/Survey_2010_2012_Comp.pdf).

Each Content Owner must balance possible gains and losses within the context of their individual business environment. Those who do choose to participate in a Discovery Service relationship may opt to set limits on the amount and type of content that they provide.

Unless a Discovery Service has access to and uses all of a Content Owner's information, their central index cannot replicate that Owner's traditional, comprehensive subject-specific database for one or more of the following reasons:

- Abstracting and Indexing databases usually cover diverse types of documents (journals, books, book reviews, commentaries, patents, conference proceedings, etc.). Access to the source materials is often regulated by long-standing relationships and agreements between the document owner and database creator that are not easily replicated.

- Abstracting and Indexing databases are comprehensive in their document breadth of coverage, covering many from their initial release. (Note: document coverage title lists are insufficient for breadth of coverage comparisons unless the years of coverage of each document are indicated).
- Abstracting and Indexing databases usually contain information from documents that may no longer be readily or cost-effectively accessible to Discovery Services.
- Coverage policies for documents can vary by Content Owner. Some Content Owners abstract and index documents cover-to-cover, some selectively index and abstract documents, and many take both approaches, fully-covering a core set of documents while selectively covering the remaining. Coverage rules for a specific document may vary during its life cycle, and bibliographic rules may vary by document type.
- Abstracting and Indexing databases contain subject-specific indexing terms that are usually based upon proprietary thesauri and bibliographic rules that are not easily replicated and that evolve as the terminology of scientific and scholarly disciplines evolves.
- Abstracts contained in subject-specific databases may not be available elsewhere. Some Content Owners solicit original abstracts from authors. Others rely upon their subject experts to create original abstracts.

Appendix C

Glossary Terms

Central Index: The central index (also called a “unified index”) is a collection of content that is systematically harvested from diverse sources such as journal publishers, database producers, library catalogs and collections, open source full text, repositories, etc. The harvested content is then processed and pre-indexed to facilitate quick searching.

Content Aggregator: A content aggregator is an organization that licenses content (e.g. journals, databases, etc.) from diverse sources for subscription and distribution via that organization’s own proprietary search and delivery platform.

Content Owner: The content owner is the individual or organization who has created the original content, and/or who holds the intellectual property rights to that content. Examples include publishers, database creators and authors who have not signed away rights to the use of their content and remain the intellectual property rights owner.

Discovery Service: A discovery service is a search and retrieval system that provides a “single search box” to access a central index of pre-indexed metadata and/or full-text.

Information Community: The information community is the universe of individuals and organizations who are involved in any aspect of the flow of scholarly and scientific communication and who are stakeholders in the overall effectiveness and efficiency of the process (e.g. authors, publishers, database producers, librarians, information scientists and specialists, technology providers, online hosts, discovery services, information seekers, etc.).

Information Seeker: The information seeker is the ultimate consumer of a product or service (e.g. a person who seeks information via a discovery service for their own specific applications).

Library: An institution that holds a physical or virtual collection of literary, scientific, scholarly, artistic, and popular materials, such as books, periodicals, newspapers, pamphlets, prints, archived records, databases, tapes, etc., for reading, reference, or lending and that provides related services for a specific constituency.

Obligation: An obligation is what is owed to people based upon the terms of a license or contractual agreement and in accordance with ethical behavior.

Platform: A platform is the software and hardware architecture that serves as the foundation for a search and retrieval system.

Ranking Algorithm: A ranking algorithm is the program used by a search engine to rank search results and display them in order of decreasing relevance based upon a set of pre-defined factors. While each search engine may assign different values to the various ranking factors, they usually consider the same factors overall.

Reasonable Display: Reasonable display refers to the prudent and balanced presentation of search results and the associated branding within the screen space available for such presentation so that content ownership is readily apparent.

Right: A right is what people are allowed to do based upon the terms of a license or contractual agreement and in accordance with ethical behavior.

Subscriber: A subscriber is an individual or an organization who has licensed the right to access and use content and/or services based upon specific terms of a license or contractual agreement,

Unified Index: see central index.

User: see Information Seeker.
