Applying the NISO Metasearch Initiative Scheme to Enhance E-Resources Management at Rutgers University Library

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Applying the NISO Metasearch Initiative Scheme to Enhance E-Resources Management at Rutgers University Library

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This paper discusses problems in the management of library e-resources and attempts to identify potential solutions to the problems. By describing an e-resources enhancement project taken by Rutgers University Libraries, this paper points to the importance of providing contextually-rich metadata and reorganizing the accessibility of e-resources on a library's website. It introduces how this Rutgers project adopted the National Information Standards Organization Metasearch Initiative to support the identification of appropriate e-collections for metasearching. The outcomes of the project have facilitated a dynamic display of relevant e-resources to library users as an effective way of automatic access to library e-collections.

Keywords: Electronic collections, dynamic display, enhanced access to library materials

INTRODUCTION

Electronic subscriptions represent the largest expense for most libraries and are the heaviest used resources of in library collections.\(^1\) At the same time, a wealth of fantastic free online resources available to libraries can also help enrich their electronic collection. It is crucial that both types of resources be readily accessible for library users through the library's website. To facilitate use, it is important to provide quick access to users who want to meet a specific need, such as finding peer-reviewed articles on a topic or to enable browsing for users to understand the difference between an abstracting and indexing resource, an e-journal aggregation site and a web site.

Libraries are faced with the challenges of collecting and managing diverse e-resources and providing access to growing e-collections. Access to date has focused on developing the online catalog into a central location through which e-resources are structured and accessed via a library's web site, such as an A-Z list. Federated searching is a popular option, and has recently been expanded by many vendors into a webscale search service against all the resources of participating vendors. Google Scholar is increasingly popular for identifying resources that meet a user's needs, which are then accessed via the library.\(^2\) All of these approaches offer partial solutions but the fundamental problem is the difficulty confronting users in understanding the complex array of electronic resources offered specific to their context of need.

This article is a case study that highlights the strategies adopted by the Rutgers University Libraries (RUL) to solve this problem. It examines the National Information Standards Organization Metasearch Initiative (NISO MI) metadata schema and its modification for use by RUL to enhance searchability of the library's web site. Through the introduction of the RUL project for maximizing the online presentation of information and resources, this article explores how a new content
management system can help RUL reorganize its e-collection and enable users to find and use electronic resources more effectively.

PROBLEMS AND SOLUTIONS

Electronic resources have been an integral part of collections in most libraries. Yet, how to appropriately manage them and provide users with easy access has been a real issue for many librarians. Because of the vast number of e-resources available online, the first problem is to discover and carefully select the most relevant ones. Then, it becomes an enormous undertaking for librarians to describe the resources and organize them for effective retrieval. Even for the electronic databases to which a library subscribes, continual changes in aggregator titles and descriptions of the databases make the management of bibliographic records a difficult job.

A conventional way of providing access to e-resources has been through a static display of the resources on a library’s web site. Statistics show that as many as 98 percent of ARL libraries offer a single location for all electronic databases. About 94 percent of ARL libraries have maintained an A to Z list of their e-databases. Typically, all e-databases have been listed by title. Librarians expect users to be familiar with the titles for easy selection. This is, however, not always the case, and in many cases “users who do not know which resource to use become frustrated as they try to find out that is appropriate.”

E-resources have become popular in most academic libraries. In 2002 and 2005, a survey was conducted at Ankara University to examine the usage of electronic databases. A high rate of usage was identified among academic personnel who relied heavily on e-databases to discover scholarly literature. The survey also discovered the great difficulties that scholars encounter when selecting appropriate databases, particularly for those who were new to the library resources. Users expressed high expectation for a meaningful access to resources.

Libraries have largely responded to this request by providing full cataloging of e-resources in their online catalogs. More than 96 percent of ARL libraries have provided such access. According to Groenewegen and Huggard, “the provision of electronic resources via a library catalogue is a well-established one and is acknowledged by many institutions as an attractive method of access.”

An example of this practice is that Lehigh University Library has enabled searching of e-resources through its online catalog so that these resources are available to all users, including distance education students.

Many other strategies have been worked out either collaboratively among libraries or independently by individual libraries. For example, the University of Connecticut Library spent a year surveying its users regarding desired solutions. Computer log files were analyzed to examine how users preferred to access to the library’s e-collections. Their solutions include reducing the complexity of decision making previously required in database selection, presenting only the top five or fewer “best bets” databases for a subject area, and ranking relevancy for e-resources. Similarly, the University of Mississippi Library has adopted a Web list approach and uses Web-based subject guides to provide access to its e-databases. A title-click method was applied to simplify the use of e-resources. This resulted in increased access to the resources.

The strategy adopted by the Texas A&M University Library is an interesting one, which endeavors to provide flexibility to the creation of subject headings. A computer program was
developed to allow both librarians and users to add extra subject headings. Alternative and former titles can also be added with the same method. These changes are believed to have improved the retrieval of electronic titles via the search engine.

Libraries also offer multiple avenues for discovery and access to electronic resources. A survey by Chen et al. reveals that around 94 percent of respondents from non-consortia libraries favored the use of both online catalogs and various types of Web database lists. Gray and McAdoo describe the creation of a website at the Edinboro University of Pennsylvania Library that provides links to e-resources through subjects in order to facilitate a single and consistent access point for library users. This approach resulted in increased use of the library's e-resources. At Columbia University Library, MARC records for freely available e-resources can be generated automatically and combined with subject selectors' data input workflow.

At the same time, federated search tools and next-generation discovery services such as Serials Solutions' Summon, Encore, Primo, and like, products have been developed by some vendors as an integrated system. The implementation and results of these systems by libraries have been observed and described. For example, Woods reported an investigation of federated search by some law librarians that pointed out a series of problems in data retrieval such as duplicated search results and irrelevancy of returns. At Sam Houston State University Library, a survey among library users for the WebFeat federated search tool indicated only moderate satisfaction.

RUL examined and considered the problems at hand and the innovations of other libraries in the context of our Drupal website development to address our growing need for better access to the libraries' electronic resources, and primarily the heavily used electronic subscription resources.

BACKGROUND OF THE RUTGERS PROJECT

Librarians at RUL have been engaged for a long time in streamlining workflow in the acquisition and presentation of electronic subscriptions. The issue of metadata, which to date has involved both the loading and supplementing of vendor-supplied MARC records, the management of a vendor-supplied A-Z list and database descriptions supplied by collection development librarians, was cumbersome and sometimes even at cross purposes, as when the description of a database on the website did not match the description provided in the MARC record. It became apparent to the librarians that a well-structured workflow would reduce redundancies, increase efficiency, and provide more consistent information and access for users. The existing metadata practice had limited the flexible creation and management of metadata for e-resources. In terms of e-resource online retrieval and presentation, the current website had not served as an ideal gateway for users. Library users’ experience with accessing e-resources on this site had been confusing sometimes, if not difficult. However, the continual maturation of information technologies makes refinement of the library's website possible.

The existing website organized all electronic databases on one page – “Indexes and Databases” – where databases were available either through an A to Z list with the titles presented in alphabetic order or were organized by academic subjects. When users selected subjects for e-databases, they had to navigate across several layers of pages. The limitations of accessing databases through either of these channels were obvious. For a full list of database names, users needed to know exactly which databases they were seeking, and this might have kept new students away from the
resources. For databases listed under subjects, users still found difficult to select the appropriate subjects or appropriate databases. This had not considered the relevancy of the databases to their subjects, which was another problematic area.

The RUL website also allowed users to search databases through its online catalog. These searches could only return database by name without necessary database descriptions. At the same time, very few e-resources other than subscribed databases were included, further limiting the value of the library’s e-collections. The web site was statically designed and was not tailored to users’ needs for customization.

Starting in 2008, RUL decided to implement a refinement and concentrated its efforts on the restructuring the presentation of electronic resources as modular website information objects which could be displayed, reused and combined in different ways, based on the contextual need of the user. Their availability would be expanded from the A to Z list, or under subjects for indexes and databases, to the point of contextual need for the user. They could be combined and reused with other potential modular objects such as the library staff directory (currently under development), where librarians are classified by the same subject taxonomies, which will provide great flexibility for the library to generate automatic subject pages for resources with the relevant librarians who can assist with their use as well as enabling library liaisons to contact users who subscribe to feeds or updates on resources that fall under their purview. E-resources could be automatically included in any durable or dynamic context of interest for users, and every time the resource changed, all locations could be automatically updated. Future goals include packaging relevant resources into dynamic websites for student portals, academic departmental websites, etc.

The project was enabled by the implementation of the Drupal Web content management system (CMS), which supports a metadata-driven design for Web objects as well as user-created and managed content which would give librarians more flexibility in handling ongoing updates. The automatic updating of electronic resource descriptions wherever they appear was also important. Drupal was selected as a robust open source CMS that was widely adopted elsewhere in other academic units at Rutgers, which would support greater integration of the libraries’ website with other parts of the university.

A Web Services committee was organized to plan and implement the refinement. The committee members came from different sections of the libraries including staff members from collections, acquisitions, cataloging, and systems. Shared responsibilities were established for acquisitions user services, technical support, and the maintenance of electronic databases. The goal of the committee work was straightforward – to improve the e-resources workflow and the libraries’ website, and to make e-resources easily discoverable and accessible. In the past, there was little coordination or collaboration among catalogers and subject librarians in the development of access to electronic resources. Cataloging these resources was also cumbersome and labor intensive, so the cataloging provided by both types of librarians was rarely updated even though the resources themselves change quite frequently. The following sections describe the workflow as well as the outcomes of the refinement project focusing on electronic resources.
DESIGN PHILOSOPHY

Studies have verified that library users always have difficulty locating electronic databases on a library’s website. An A to Z list, like the one offered by RUL, is only helpful to those who know the exact name of the databases. Organizing electronic databases under subject areas has not proved to be any better for the user, particularly those searching in a multidisciplinary area or not sure of the exact subject domain of their search.

Based on these considerations, the committee decided that dynamics would be the main theme of the project. Dynamics would encompass a metadata creation mechanism through which both subject librarians and catalogers could make contributions when it makes sense during the course of their workflow, such as during the selection and evaluation process (for a subject specialist), or at point of need, such as when working on a research guide. The metadata should provide flexibility for the development of future features as user needs either change or are better identified. Dynamics also refers to a vibrant display of e-resources that could match individual searching criteria. The new site will guide users by identifying databases needed rather than leaving users to struggle through lengthy lists to make their own decisions. A key element was a precision subject taxonomy that reflects the research and curricular needs of Rutgers University, that could be assigned in a nuanced way to electronic resources, to guide the user in that subject area to the most appropriate resources. The metadata needed to provide other key elements, such as peer review, to support the librarian developing a research guide or a library literature course as well as to generate MARC records that are aligned with the web-based descriptions. In other words, the quality of metadata descriptions was equally important for both librarians who work behind the scenes and users who search for databases on the frontlines.

THE NISO MI METADATA STANDARD

There is an ongoing demand for new metadata standards to meet the needs presented by evolving digital technologies. New standards have emerged both for special initiatives and for advancing standardizations at various stages. In 2003, several stakeholders met at the ALA Midwinter Meeting to discuss issues related to metasearch. Several months later, NISO organized a two-day Strategy Meeting to identify extant problems and possible solutions. This series of discussions initiated a concerted effort that led to a new metadata standard known as NISO MI. A group of six key functions were soon categorized in a metasearch workshop held in October 2003 to support NISO MI. These functions include Metasearch System Identification, Statistics, Result Set Management, Collection Description, Search Options, and Authentication and Authorization. Three groups were established as Access Management, Collection and Services Descriptions, and Search/Retrieve. The Collection and Services Descriptions group has adopted Dublin Core (DC) Collections’ Application Profile as the basis for the metadata schema of NISO MI Collection Descriptions Specification. Some new and unique elements have been also added.

One currently underutilized component of the NISO MI standard is a metadata schema for descriptions at the collection level, in which items are described in aggregation. Its purpose is to enable search engines to make “intelligent” decisions for search and retrieval, from selecting the most appropriate resources for a subject search to displaying the most relevant resources, based on
collection level metadata, in response to a subject search. It can also help users prioritize databases for their own searches and identify services that can provide access to selected collections.

NISO MI standard is not designed to provide cataloging rules. Nor does it provide user guidelines for the metadata of collection descriptions. This metadata schema was selected as the basis for RUL’s development because its purpose—to support precision access to electronic databases based on user subject needs—is aligned with our goals for enhanced electronic resource descriptions. Although NISO MI shares many similarities with DC Collection’s Application Profile, it has some unique elements, e.g., Subject Completeness. The metadata was tested against multiple Rutgers electronic resources as part of the selection process.

In a digital environment, a collection is defined as the logical grouping of one or more items. Using this definition, an electronic database is regarded as a collection. With the NISO MI collection description specifications (Z39.91) as a simple tool to describe digital collections, a core set of twenty-eight metadata elements is provided. Upon a careful analysis on the elements, we selected those that were believed could satisfy our goal of dynamics, contextually relevant access to electronic resources. To better meet our need for the management of e-resources, particularly e-databases, some additional elements were developed and added to the schema.

From the twenty-eight possible data elements in NISO MI, a total of seventeen elements were selected to support enhanced user access to resources. Six new elements were introduced to tailor our particular need. Many of these elements are self-explanatory. Appendix 1 provides a table that lists all NISO MI and added RUCore (the Rutgers Community Repository) 24 elements for the project with brief descriptions for each element.

Some NISO MI elements were not selected because they were created for collection management and not for end user information, such as Accrual Method, Size, Custodial History, Rights, and Audience. The Rights element, for example, is not applicable to RUL’s project. At RUL, all subscribed e-databases are for the exclusive use of Rutgers-affiliated people including students, faculty and staff, and thus Rights is irrelevant. This element is managed in a much more nuanced manner specific to our individual licenses in the Rutgers ERMI implementation. Different from Rights, the Access Rights element helps manage the accessibility of users to various levels of resources with designated restrictions, which was adopted for the project. In practice, users may be assigned restricted access to certain materials based on some criteria, e.g., for individual academic units.

The Collection Type element was selected for the project, which is not displayed to avoid any confusion for our users, since Collection Type information is covered by the Description Element. On the other hand, some new elements were added, e.g., the “note” field which includes some subfields such as “plug-ins requirements” to handle situations such as the need for a special program to open a file with Adobe Reader, QuickTime, etc. Other examples of the newly-added elements include “user tools” to deal with features that are useful in the management, like email alerts, save search, etc. Additional examples include the element “citation tools” for describing identifying tools like RefWork, EndNote, and the like, the element “collection help” for collection tutorials created by librarians at Rutgers or by database publishers, and the element “sorting title” which is a rarely used element, but sometimes useful for sorting titles like from L’année Philologique to Annee Philologique.
SUBJECT COMPLETENESS

Before the refinement project, all electronic databases on the RUL website were organized according to a hierarchical structure. When users visited the indexes and databases page, a group of academic fields was listed, i.e., General, Multidisciplinary, Arts and Humanities, Business, Health Sciences, Law, Sciences, Technology, Engineering and Math, and Social Sciences. Clicking any of these fields would lead to the next page where individual academic subjects (anthropology, physics, or social work, for example) were presented. Navigating farther down to another level of page through each subject name, users would finally face a list of databases. This hierarchical structure was intended for users who did not know the title of individual databases, but wanted to find them via a subject browse. The multi-step navigation across different layers of the Web pages provided a tiresome design that tested the patience of the users, without providing nuanced subject value. Its accessibility was very questionable.

It was not the purpose of the project to totally eliminate these structures that had previously been set in place. Instead, the committee hoped to bring in new features for the refinement. The adoption and implementation of a NISO MI approach – Subject Completeness – was one of the strategies. The Subject Completeness approach applies five levels to weigh the resources’ coverage of a subject:

- 0. Out of scope
- 1. Minimal
- 2. Basic information level
- 3. Study level or instructional support level
- 4. Research level; adequate to support doctoral research
- 5. Comprehensive level

The committee felt that the multi-level evaluation recommended within the NISO-MI metadata was too complicated to evaluate for each database and not meaningful for users. A decision was made to simplify this system to include only three stages, i.e., primary, secondary, and tertiary. Here, a primary source refers to the most useful content of electronic databases in a subject area. A secondary source provides electronic resources less useful to that subject than the primary one. They may represent resources in an academically adjacent field, or resources for general uses. Tertiary sources are yet one more level removed from the primary and secondary sources, and generally refer to tools for discovering primary and secondary sources.

The subject librarians believe that the new structure is more user-friendly than the existing alphabetical list. They agreed that such a primary-secondary-tertiary presentation of electronic resources will guide students to the different levels of relevancy of the resources they are seeking. Suggestions were made to change the wording of the categories to core, related, and supplementary, because primary resources may mean original documents to history students. Some subject librarians were also concerned that too many levels for a category would cause more confusion for students. All suggestions from subject librarians were carefully evaluated to provide the best design by the committee, although not all suggestions were adopted.

Subject reference librarians assisted in evaluating all electronic resources by ranking them by the core, related and supplementary approach under each subject. For example, an obvious
difference for the arrangement of databases in library and information science would provide
Library and Information Science Abstracts (LISA) and Resources for College Libraries (RCL) as the
core sources, and the Academic Search Premier and the Association for Computing Machinery (ACM)
digital library as the related sources (Figure 1).

OUTCOMES

The refinement project, which concluded in September 2009, has made necessary revisions to both
the workflow for librarians to follow with regard to the management of e-resources and the data
retrieval mechanism as well as the Web display standards for library users to utilize. In order to
highlight the revisions, it is helpful to review them one by one.

1. A new workflow. The new workflow can create an impact on many aspects of the library's
operations including acquisitions, cataloging, subject collection, and systems handling. The changes
are obvious. From the cataloging side, this workflow is more efficient; and from a user's perspective,
it provides a faster and more accurate return and display of electronic resources. A simplified
procedure is listed below to explain the way of handling an electronic resource.

a) An e-resource request form is filled out;
b) A notification with the request form is sent to the webmaster and serials cataloger;
c) The information is made available to Drupal by the webmaster, which makes the
resource searchable and displayable right away;
d) It is then cataloged by the serials cataloger.

2. A dynamic retrieval system. The previously practiced of searching databases through the
libraries' online catalog remains intact for the sake of its easy and convenient retrieval of e-
resources. Yet, the improved retrieval system features a dynamic presentation of the resources on
online display. First, the retrieval will respond to individual searches by automatically prioritizing
the relevancy level of all resources and displaying them in a hierarchical structure such as in a core
resources category, a related resources category, and/or a supplementary resources category. This dynamic display is facilitated by the new metadata creation and management following the new workflow. What a user can see after a subject search is a list of e-resources, from which the user can then select the desired databases accordingly.

Secondly, searches are not limited to electronic databases. Results include other freely available e-resources are listed side by side with subscribed databases. The free e-resources may become available within the list of these three categories. In order to incorporate these electronic resources into RUL’s collection, subject librarians will discover, identify, evaluate, select, and organize them from a rich source of online materials. Upon selection, the subject librarians will work with the catalogers to create appropriate metadata to facilitate data retrieval.

3. An interactive link. Upon completion of the project, the appropriate metadata fields for electronic resources can provide smart linkage between the resources and some other online features. For example, e-resources are connected with the library staff directory so that users can discover relevant electronic collections when searching for a librarian to help them with subject resources. Subject librarians will create dynamic “root” research guides for subject areas where the libraries currently lack such subject guides.

4. A foundation with much potential. With rapid advances in information technologies and changing demands on library services, it is anticipated that many possible directions for the future of a library’s website will emerge. The refinement of this project took these possibilities into account and endeavored to build a system that could leave much potential for further improvements. NISO MI is able to facilitate such inclusion of the possibilities.

An example of the types anticipated changes that may take place in the near future include support for personalized library space on the Web. Currently, some academic libraries have constructed a “private space” feature (e.g. called MyLibrary by Cornell University Library) on their websites that provide users with the flexibility to individualize their own virtual space based on their personal preference for library information. Combined with a Drupal design, NISO MI can focus on converting all information streams into modular objects that can be combined in useful ways. It will be, then, easy to repackage the libraries’ web site based on the user’s stated preferences and ensure that the resources the user needs are included and not just the resources the user may know about or have familiarity with. Most importantly, as new resources appear that are directly relevant to the user or group, they can be automatically added and prioritized within each specific user package. Examples include the general “what every freshman should have” package, and a reconfiguration of the web site and its resources for the Anthropology Department. The web site is, then, linked directly off their website. Another example includes a repackaging of library resources and services for an individual course, based on parameters the users describe but with the resources and services then selected dynamically via the metadata. In the next phase of the project, the theme and focus will move from dynamics to integrate resources to the needs of each user and to integrate those resources into the user’s own workflow, at point of need.
ACKNOWLEDGEMENTS

The author would like to thank Grace Agnew and Mary Beth Weber for their assistance in the writing of this paper. The author also wants to thank those who participated in the e-resources enhancement project at Rutgers University Libraries.

REFERENCES


**Appendix 1. NISO MI and RUCore * elements for the Rutgers project**

<table>
<thead>
<tr>
<th>Element source</th>
<th>Element Name</th>
<th>Definition and usage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NISOMI</td>
<td>Collection Identifier</td>
<td>Globally unique identifier use for URL, DOI, ISSN, handle</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Title</td>
<td>Name given to the collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Alternative Title</td>
<td>Variant or Superseded title for the collection</td>
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</tr>
<tr>
<td>NISOMI</td>
<td>Description</td>
<td>Overall description for the collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Language</td>
<td>Predominant languages of the content of the collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Type</td>
<td>Genre of the content of the collection, Decide whether to map Dublin Core types to more user-friendly terminology</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Access Rights</td>
<td>Unrestricted or restricted</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Accrual Periodicity</td>
<td>Frequency of the items are added to the collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Subject</td>
<td>Subject of the content</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Spatial Coverage</td>
<td>Geography of the items in the collection</td>
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</tr>
<tr>
<td>NISOMI</td>
<td>Temporal Coverage</td>
<td>Temporal characteristics of the items in the collection</td>
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<tr>
<td>NISOMI</td>
<td>Subject Completeness and Completeness Level</td>
<td>Including Completeness Subject and Completeness Level, Develop a subject taxonomy that reflects RU curriculum and organization and research and also the unique character of the collection as appropriate</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Collector</td>
<td>Content provide and producer</td>
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</tr>
<tr>
<td>NISOMI</td>
<td>Is Accessed Via</td>
<td>Provide the service to the resource</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Sub-Collection</td>
<td>Another collection contained within the current collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Sup-Collection</td>
<td>A collection contained the current collection</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Associated Collection</td>
<td>A second collection that is associated with the current collection, such print journals</td>
<td></td>
</tr>
<tr>
<td>NISOMI</td>
<td>Size</td>
<td>Size information should include in description</td>
<td>Not use for our project</td>
</tr>
<tr>
<td>Element source</td>
<td>Element Name</td>
<td>Definition and usage</td>
<td>Notes</td>
</tr>
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<td>--------------------------------------------</td>
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<td>NISOMI</td>
<td>Rights</td>
<td>Licenses information not include the project</td>
<td>Not use for our project</td>
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<td>Accrual Method</td>
<td>More useful for collection management than end users</td>
<td>Not use for our project</td>
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<td>Accrual Policy</td>
<td>More useful for collection management than end users</td>
<td>Not use for our project</td>
</tr>
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<td>NISOMI</td>
<td>Custodial History</td>
<td>Not useful for end users</td>
<td>Not use for our project</td>
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<td>NISOMI</td>
<td>Audience</td>
<td>Audience is very difficult to assign in a meaningful way. RU will use subject completeness indicator to differentiate databases for audience.</td>
<td>Not use for our project</td>
</tr>
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<td>NISOMI</td>
<td>Accumulation Date Range</td>
<td>Use for collection management</td>
<td>Not use for our project</td>
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<tr>
<td>NISOMI</td>
<td>Contents Date Range</td>
<td>Explain contents date range in description</td>
<td>Not use for our project</td>
</tr>
<tr>
<td>NISOMI</td>
<td>Owner</td>
<td>Use for collection management</td>
<td>Not use for our project</td>
</tr>
<tr>
<td>NISOMI</td>
<td>Catalogue or Description</td>
<td>Use for collection management</td>
<td>Not use for our project</td>
</tr>
<tr>
<td>NISOMI</td>
<td>Associated Publication</td>
<td>Use for collection management</td>
<td>Not use for our project</td>
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<td>RUCore</td>
<td>Local identifier</td>
<td>Use by local implement, not show on public</td>
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</tr>
<tr>
<td>RUCore</td>
<td>Locator</td>
<td>Use to access the resource, or proxy string, not show on public</td>
<td></td>
</tr>
<tr>
<td>RUCore</td>
<td>Sorting Title</td>
<td>Variant title to remove initial articles</td>
<td></td>
</tr>
<tr>
<td>RUCore</td>
<td>Source</td>
<td>Summary of the resources or resource genres that comprise the collection</td>
<td></td>
</tr>
<tr>
<td>RUCore</td>
<td>Notes</td>
<td>Use for plug-in, browser, user tools and features, collection help, and citation tools</td>
<td></td>
</tr>
<tr>
<td>RUCore</td>
<td>Funder</td>
<td>Use for funding purchase or lease of the content</td>
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</tr>
</tbody>
</table>

*RUCore – indicates local element*