



NISO Strategic Directions

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Introduction

To support a new strategic direction in 2007, NISO created a new governance structure and, as part of this restructuring, implemented the [NISO Framework](#), an overarching model and roadmap for NISO's standards work. Because the landscape in which NISO operates continues to undergo rapid change, the NISO Board, in its strategic directions document, included a mission statement that calls for NISO "to develop standards that enhance the effectiveness of the value chain that supports the creation, persistent management, and effective interchange of information so that it can be trusted for research and learning." In order to fulfill this mission, NISO needs to maintain a comprehensive and comprehensible view of that value chain. The Framework was developed partly as a tool to help NISO classify its standards and other work and thus realize where gaps exist and no organized work is taking place, potentially helping to determine areas of need where NISO could contribute, or identify the areas or community segments where opportunities exist to collaborate with other entities/standards bodies.

Seven years later, NISO is still operating in a complex space with many inter-related components. We continue to structure our standards portfolio around the core areas of Content and Collection Management, Business Information, and Discovery and Delivery—with a Topic Committee providing leadership for each area. The role of the Architecture Committee is to determine overall strategic vision for NISO's work, oversee the work of the Topic Committees, and address any overlapping areas. The Architecture Committee is also directly connected to NISO's Board—through its Vice Chair, who chairs the committee—to ensure there is close alignment with NISO's goals and mission as an organization.

Recently, the NISO Topic Committees reviewed their current and recent portfolios and discussed potential future activities in an effort to validate or update the Framework, and as an opportunity for individual Topic Committee members to understand the work of the other Topic Committees and to potentially offer ideas and other contributions that will enrich the overall future directions for NISO work. This exercise was also intended to identify any cohesive themes that run through the work of each Topic Committee to appropriately and adequately address them in the course of development of each Topic Committee's respective portfolio of standards and recommended practices, and to support any need for Topic Committees to effectively collaborate. This document is the summary of this work by the three Topic Committees.

It should also be noted that in standards development there are additional legal or business "drivers" where participation and/or adoption can often come into play. Occasionally those interested in working with NISO standards and recommended practices have their own local requirements in certain areas that they desire the standards to fulfill. It should be noted that NISO documents are limited as to their ability to address these individualized issues that exist in the community environment and are not specific to NISO work. It is important, however, to maintain awareness of these drivers and continue to educate the community about areas such as these where NISO cannot make pronouncements. Special attention by all participants may

be required to successfully navigate the analysis of these needs and satisfy all stakeholders as fully as possible without diluting the power of the NISO standard.

Current and past activities of each of the Topic Committees can be viewed at the archive for [Working Group Connection](#), a quarterly update distributed via e-mail to the members of the *NISO Newslines* mailing list.

Business Information Topic Committee (BusInfo)

Scope

The Business Information Topic Committee focuses on issues regarding the management structure surrounding the acquisition, licensing, purchasing, and analysis of information. Specific areas include: license expression, online usage data, access management, performance measures, and other statistics.

Trends and Emerging Themes

Overarching themes emerging from the completed work in the Business Information Topic Committee's portfolio and anticipated trends:

- An assortment of emerging metadata issues has substantial implications for business systems. Metadata that eventually supports discovery, use, and content management will need to interoperate with or be generated initially to support business operations.
- New business models continue to develop as digital publications and value-added services evolve.
- A new subset of business models is developing around open access publications or portions of publications.
- New levels of granularity within publications, including handling of supplemental materials for articles, are creating new challenges for managing business processes.
- Publications increasingly re-enter business cycles at multiple points in their life cycles as print publications are digitized or sub-sections are monetized.

Significant trends anticipated by the Business Information Topic Committee include:

- **Rapidly developing identifier systems for authors, funders, institutions, publishers, and content (articles and datasets)** are likely to have implications across NISO Topic Committees. Within the Business Information Topic Committee's scope of work, a variety of business systems will need to appropriately leverage identifiers relating to publications, creators, publishers, institutions, funders, etc.
- **Information to support business systems must integrate seamlessly with metadata for resource discovery and content management**, regardless of the carrier of the bibliographic metadata. The library and publisher communities can't have duplicative systems where information is discarded, rekeyed, re-entered etc. by each user.
 - Use of mass-market vendors to obtain materials for library collections is very much on the uptick. Libraries are doing a huge amount of business with Amazon and other

- closed vendor systems. Integration of usage data from these systems is often lacking.
- Increasingly, legacy content is a significant source of purchases. Again, connecting information from business processes with information that allows linking/overlaying with existing discovery metadata is important.
 - Value-added services require ways to link the added value to the existing resource.
 - Greater support for metadata creation is needed for materials produced outside North America. Metadata creation early in the purchase cycle can facilitate many business processes, but particularly for non-Roman scripts or works coming from outside the developed world, such metadata for publication identification is rarely provided prior to receipt of the purchased or licensed material.
 - Knowledge bases are increasingly operating at the intersection between business systems and discovery systems. Ongoing maintenance of quality metadata in knowledge bases is critical to their effectiveness. Some recent analysis of knowledge base performance suggests that journal transfers between publishers tend to be represented poorly in knowledge bases.
- **Changes in the granularity of publications** require new support from standards and best practices.
 - Smaller publishers want chapter level metadata for books, which requires structuring chapter-level abstracts and, perhaps, structures to carry work level metadata to chapters, as well as navigational support and reference handling. Further exploration of needs in this area may involve collaboration with the NISO Content and Collections Management Topic Committee.
 - Altmetrics, a variety of new, alternative usage and quality metrics, are rapidly evolving with a focus at the sub-publication level, e.g., at the article level. In the past year, NISO has undertaken [further exploration of potential standards work in this area](#) and the Business Information Topic Committee will evaluate and approve any proposed projects.
 - **Increasing deployment and adoption of open publishing and research sharing systems** is creating a need to support new business models and business systems to support activities such as author-side payments, hybrid journals with both open and toll access articles, open access monographs, etc. This support is related to a trend that business systems underpinning open access payments may need to interoperate with systems supporting access and usage, and, further, is connected to the trend of identifier systems noted above.
 - Uptick in author-side payments for open access will require business systems that integrate identifier infrastructures for authors, funders, publishers, etc.

- Hybrid publications may leverage different business models for parts of publications, e.g., open access articles in subscription journals, than a fully open access journal, requiring different support mechanisms.
- Open access monographs may have different associated business models than open access journals.
- Issues arise regarding usage metrics beyond Project COUNTER including how publishers and libraries get statistics for open access monographs, journals, and articles in a dispersed access environment.
- Licensing terms for open access works (including monographs) are undefined. Additionally, there may be separate content licensing issues related to institutional repository projects.
- Data –whether or not open—needs to be connected to relevant publications or more granularly within a publication, e.g. to journals, tables, figures, and images.
- New systems and services are developing to handle article publication charge payments on behalf of authors. These systems need to interoperate with both publisher and institutional systems. Automation and standardization are needed to create and manage a working infrastructure for publishers, institutions, and funders regarding page charges.
- **Digital preservation conversations**, which may raise relevant issues, are distributed and, in many instances, self-contained. In 2013 members of the Business Information and Content and Collections Management Topic Committees met together and collected and provided community feedback to NISO as part of an assessment of that area’s landscape, and are willing to re-engage in this discussion as needed, should it be an area where NISO sees benefits in engaging.

Content and Collections Management Topic Committee (CCM)

Scope

The Content and Collection Management Topic Committee focuses on issues regarding developing, describing, providing access to, and maintaining content items and collections. Specific topics include: metadata schemes, collection-oriented identifiers, and RFID, etc.

Trends and Emerging Themes

As is true for other NISO Topic Committees, the most significant current trends within the information community relevant to CCM are the movements towards open access, changes in infrastructure requirements for standards publication and adoption, the increased level of granularity in information assets for purchase and access, and the move from the current MARC-based bibliographic model to a linked data bibliographic framework. Specifically:

- There is an ever-increasing **mix of open access content and fee-based content** in the ecosystem (sometimes within the same digital publication), making description of and providing easy access to these materials more complex.
- In response to user expectations, **support of direct access to increasingly granular chunks of content** is required. Examples include book chapters, encyclopedia articles, etc., where smaller units of content are discovered and accessed without first finding the full work. Users may still wish to search within the full work or use its table of contents. Open access journal articles may be located and accessed without a subscription to the full journal (in the case of hybrid journals); usage measurement for article-level transactions is needed; and transaction-based pricing models are on the rise, impacting serials use. There may be impacts from these changes on many NISO standards, for example, [ANSI/NISO Z39.96-2012, \(JATS\)](#)—the article tag suite and DTDs used by many publishers to author, publish, and promote archiving and interchange of their data.
- The landscape is shifting to **semantic web-based distribution of vocabularies and ontologies** as support for (or replacement of) PDF publication for standards with dictionary-type aspects. Some effects of this shift are the requirements for public web structures (namespaces, etc.) to support non-document publishing. Uptake of standards is improved as are their associated maintenance processes and interoperability. And library-oriented publishers using linked open data as their sharing mechanisms for distribution are better integrated with other semantic-based efforts, leading to richer experiences for end users.
- **New types of resources are emerging**, such as datasets. These have implications for citation and attribution, and have generated community statements such as the [Force11 Joint Declaration of Data Citation Principles](#).

- **Digitization of primary source materials** continues, which enables enrichment of unique special collections. These collections, like all collections, need to be described and made available for potential users.
- As **users continue to rely on mobile devices** for information any time, anywhere, libraries will continue to compete as sources for information, and they, publishers, and content providers must remain nimble in their information delivery in these new forms.

Discovery to Delivery Topic Committee (D2D)

Scope

The Discovery to Delivery Topic Committee focuses on issues regarding the finding and distribution of information by and to users. Specific topics include discovery systems, transfer of data, interface design, web services, etc.

Trends and Emerging Themes

Overarching themes emerging from the completed work in the Discovery to Deliver Topic Committee's portfolio are:

- **Openness and transparency** – Several standing committees and working groups have been looking at issues surrounding open access, a concept which is quite politically fraught and important in different ways to different stakeholders. D2D members expect this to continue to be an area of investigation moving forward. D2D will continue to look for ways to increase openness and transparency for libraries and end users, while respecting the business needs of content providers and other vendors.
- **Data quality issues/access to data** – Open access to data is critical to libraries and vendors, but equally critical is the quality of that data. D2D will continue to work to identify areas where data and metadata quality can be increased, and data exchange improved, to better meet the needs of users. D2D will also focus on the standardization of data and metadata to ensure consistent use across systems.
- **Systems interoperability** – There will always be tension between the creation of new features and functionality and the establishment of standards that support systems interoperability. D2D supports that innovation, while recognizing that systems interoperability is also desirable. D2D will endeavor to play a role in determining when new innovations are ready for cross-system standardization and best practices, via traditional methods or emerging web services/APIs, while encouraging ongoing innovation.
- **Efficiency of implementation and ongoing maintenance** – D2D believes it is in the best interest of all parties to streamline the implementation and maintenance processes for systems. Progress in the areas above can help increase the efficiency of system implementation for all stakeholders. Continued focus on standards and best practices can also help both with implementation and ongoing maintenance of those systems.

Beginning in summer 2013, as several projects were nearing completion, D2D began looking for the next set of challenges and opportunities. The group tried to focus on efforts that appear to possess barriers to implementation or adoption, to identify what could be done to move those initiatives forward to better meet community needs. Internal brainstorming identified three main areas of interest for D2D:

1. **Emerging trends in Discovery** – Reframing historic discovery challenges with emerging large scale technologies and processes
2. **E-resource metadata** – Current status and future opportunities
3. **Fully realized Semantic Web** – What needs to happen to bring this concept to a reality? How can we get the library community more engaged with this idea?

After further discussion, the group decided to ask NISO to contract with an independent consultant to do some initial investigation into the first area above (and to a lesser extent, the second area). NISO contracted with Marshall Breeding to provide a white paper on the current state of Discovery Tools, focusing on core functionality, infrastructure, and challenges. Specific focus areas for this white paper to include were identified as:

- Linked data (e.g. Schema.org)
- Visualization and discovery
- E-resource metadata, including potential for neutral, centralized, searchable index
- Crowdsourcing: personal and social cataloging, folksonomies, readers advisory, and recommendation engines
- Social discovery: using behavior patterns and other analytics to dynamically affect relevancy and recommendation
- Assessment, including alternative metrics
- Non-traditional content forms (e.g. big data, augmented reality, etc.)

It is anticipated that the white paper, to identify specific needs within the community that uses discovery tools, will be published in Winter 2015, and will greatly inform the future work of D2D so that any future D2D work can be focused on the areas that have the most need. To that end, the paper will include a gap analysis between user needs and discovery tool functionality, discuss environmental trends in specific focus areas, and provide concrete recommendations on potential NISO activities.

Next Steps

The individual Topic Committees found, in general, that the delineation between areas that was made in 2007 is for the most part still valid. The Architecture Committee is a useful forum for keeping track of what activities are being pursued by each Topic Committee and for brainstorming strategies for managing some inevitable overlap in a constantly changing landscape.

The Architecture Committee and Topic Committees plan to use this document to formulate action plans for potential work in the 2015 timeframe. NISO invites feedback from the community on these and other potential initiatives.