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## Don's Conference Notes--The Future of Discovery: A NISO Forum

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## The Future of Discovery: A NISO Forum

**Column Editor's Note:** *Because of space limitations, this is an abridged version of my report on this conference. You can read the full article at <http://www.against-the-grain.com/2016/01/v27-6-dons-conference-notes/>. — DTH*

**T**he National Information Standards Organization (NISO, <http://www.niso.org>) held a Forum on the future of discovery services on October 5-6 at Johns Hopkins University's beautiful suburban Mount Washington Conference Center in Baltimore, MD. There were about 100 attendees at this Forum as well as a number who attended via a live stream.



*The historic Octagon at the Mount Washington Conference Center.*

### NISO White Paper

NISO's Discovery to Delivery (D2D) Committee had commissioned a white paper by **Marshall Breeding**, an independent library consultant, on the future of discovery services, which formed the basis for the Forum, and **Breeding** opened the Forum with a summary of it: "The Future of Library Resource Discovery," (available at [http://www.niso.org/apps/group\\_public/download.php/14487/future\\_library\\_resource\\_discovery.pdf](http://www.niso.org/apps/group_public/download.php/14487/future_library_resource_discovery.pdf)).



**Marshall Breeding**

Discovery has come a long way since the publication of simple lists of volumes held in a library. Online catalogs appeared around 30 years ago, and some still exist. Web-based index discovery became available in 2009, and the state of the art continues to advance:

- Non-textual material is beginning to appear in discovery systems.
- Relevancy is improving as a result of more sophisticated search and retrieval technology.
- Socially-powered discovery (i.e. incorporating usage data in the search engines) is starting to appear.
- Scholarly communications are shifting rapidly towards open access (OA) content. So far, no OA discovery indexes exist.
- Gaps still remain in indexed content, especially for non-English language materials.
- Special collections and archives are valuable to libraries and need to be exposed in broad-based discovery systems.
- Linked data is a major trend, but many sources cannot be treated with linked data because they are proprietary.
- Interoperability of discovery services with learning management systems is needed.

Many users do not start their research with a library's Website or discovery service, so discovery must become part of the general information infrastructure. **Breeding** closed on an optimistic note, saying that discovery services will remain one of the essential components in libraries. He recommended that the next development phase of discovery include improving participation from the A&I providers, improving data exchange mechanisms through an increase in the quality of the metadata, and enhancing interoperability with resource management systems. Opportunities for discovery are directly dependent on the future of scholarly publishing and communication.

### Vendor Panel Discussion

**Scott Bernier**, Sr. Vice President of Marketing at **EBSCO**, wondered how we can optimize the value of our resources. **EBSCO's** goal is to surface the right content to the right user at the right time using precision, relevancy ranking, and indexing technologies; its system design principles include extensive and reliable coverage, democratic delivery and access regardless of the source of the resources, and designing an experience that makes research easier and seamless. When the right item is found, it must be delivered to the user with the library's goals in mind.

**Steve Guttman**, Senior Director of Project Management, **ProQuest**, said that design principles for its discovery product, Summon, include:

- *Democratic discovery*: guiding the user to the best products regardless of their source,
- *Transparency*: understanding why results were obtained, and
- *Fairness*: allowing each piece of content to have an equal chance of being found in a search.

**ProQuest** enriches the metadata from each provider using a "match-and-merge" technology, creating a merged record from duplicates and combining the metadata. **ProQuest** is committed to the Open Discovery Initiative (ODI) to ensure collaboration with all content providers, democratic discovery with fair and unbiased indexing, and full transparency and detailed disclosure.

**Mike Showalter**, Executive Director, End-User Services, **OCLC**, said that with 347 million records, **OCLC** represents the collected holdings of everyone. Its WorldCat discovery service contains over 1.9 billion electronic, digital, and physical items from all major publishers.

**Ido Peleg**, Vice President, Solutions and Marketing, **ExLibris**, said that today's systems are mobile, personalized, and explorative, and responsive design is necessary. We need to understand users and how they use content, which can be derived from analytic data. **Peleg** cited the example of Lego as a modern company that interacts with its customers; on its ideas Website (<https://ideas.lego.com/>), people can suggest new sets they would like to see created.

Following their presentations, the panelists were asked to discuss three questions:

**How is your organization narrowing the gap between content participation and those not participating?**

- It takes a lot of work to build indexes; we need to decide who we want to work with and the content that is most important to get into the database.
- We must move down the long trail. Many small publishers have never heard of discovery systems.
- Partnerships are critical. Building discovery systems is a very ambitious undertaking.

**Does your organization have a use for linked data, and how will you use it in a discovery system?**

- We should be asking about how to bring improvements into the search process, and the answer might or might not involve linked data.
- We cannot expect each library to undertake the task of creating the linked data.
- Everything focuses on solving the end user's problem.

**Are you making discovery your primary product and are your products available in smaller packages?**

- **OCLC** focuses on a modular approach to retrieving specific content. It has 24 APIs and tries to cooperate with users as much as possible to make it easy for readers.
- All of **ProQuest's** content is now exposed through Google Scholar, so it can be accessed by students whether they access it through the library's Website or not.
- The main thing is whether we solve the user's need. We must build products with an eye towards flexibility.

### "A Billion Lessons Learned"

**Karen McKeown**, Director, Product Discovery at **Gale Cengage Learning**, noted that

*continued on page 68*

**Gale** was one of the first users of library discovery services. Students feel a value for the library; in a recent survey, 70% of them said that they do not ask campus librarians for help with their assignments. To address this problem, the "MindTap" app (<http://www.cengage.com/mindtap/>) that combines library resources with tools to make courses more engaging was developed. **McKeown** said that the lessons learned are described by the "4 Cs":

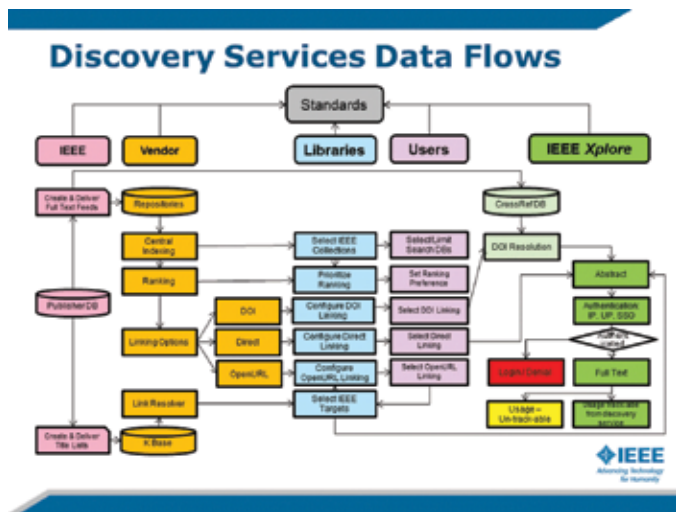
- *Content*: Reaching full coverage of all databases is not easy.
- *Coverage* varies across partners.
- *Communication* must be open and visible; partnership lists should be available on systems' Websites.
- *Collaboration* and continuous improvement are important.

### Serendipitous Discovery

**Gregg Gordon**, President, **Social Science Resource Network (SSRN)**, discussed serendipitous discovery, a topic on which he has written in *ATG* (v.22, #4, p.18, September 2010). It facilitates finding information that previously the searcher did not know existed. **SSRN** levels the playing field by providing a platform for authors around the world to publish their work, even if it has not been peer reviewed.

### A Publisher's Long-Term Commitment to Improving Discovery Services

**Julie Zhu**, Discovery Services Relations Manager, said that **IEEE** was among the first publishers to become ODI compliant: it sends its records to all four discovery service providers. A publisher's tasks are to generate metadata and full-text feeds of its content and send them to repositories, send Digital Object Identifiers (DOIs) to **CrossRef**, generate title lists, and send the data to vendors' knowledge bases. The workflow is very complex (see the flow diagram below) and cannot be done by one person.



IEEE's future plans include:

- Deepening relationships with discovery service providers,
- Improving metadata and content delivery, and
- Deepening relationships with libraries.

### Where Do We Go From Here? Assessing the Value and Impact of Discovery Systems

**Michael Levine-Clark**, Professor, **University of Denver Libraries**, and **Jason Price**, Director of Licensing Operations, **Statewide California Electronic Library Consortium (SCELC)**, said that libraries' goals differ widely and include:

- Improving the user experience and to provide a Google-like experience,
- Providing one-stop shopping for many resources, primarily articles and books, in all disciplines,

- Replacing the OPAC,
- Reducing the number of individual A&I databases to which they subscribe, and
- Increasing the number of users starting their research with the library's resources.

**Levine-Clark** noted that referrals to a publisher come from discovery services, resolvers, database searches, and OPACs.

### Future of Resource Discovery from a UK Perspective

**Neil Grindley**, Head of Resource Discovery at **Jisc** (formerly the **Joint Information Systems Committee — JISC**), discussed the future of resource discovery from a UK perspective. He noted that a huge amount of work is involved in compiling the indexes of a discovery services, and discovery ends up being more about data than resource discovery.



Neil Grindley

**Jisc** provides the network backbone for about half of UK universities and colleges. Because of **Jisc's** coordination activities, UK libraries tend to be more collaborative and willing to share data than U.S. libraries, but some U.S. libraries are far ahead of those in the UK in terms of implementing discovery systems because they have more resources.

Here are some of the issues that **Grindley** sees with a "one-stop shop":

- How much can we make available in one place?
- How do we convert information into knowledge? Does it reflect the user journey?
- Can users get to the appropriate item if they access the discovery service by different routes?
- The overriding concern is data quality.

Trends and research in scholarly discovery behavior:

- Should libraries play a role in discovery? They tend to overestimate the extent to which users understand the library concept, tools, and even basic bibliographic formats and relationships.
- Online activity is pervasive across all age groups and categories of users.
- While some are looking for ways to make library services more effective, others are challenging the idea that libraries should play a role in discovery.
- More could be done to ensure seamless access across services.
- There is a developing focus on understanding what library and alternative discovery tools each do well.

Major areas of concern to UK academic libraries include print and collection management, collaboration to reduce duplication, data quality, metadata and persistent identifiers. New emerging trends for discovery include:

- Specialized apps for discovery,
- Streaming services similar to music discovery systems,
- Increasing demand for access via mobile devices,
- A hidden economy of user-curated scholarly discovery,
- Rapidly changing online trends of social media usage, and
- Next generation expectations for search.

### The Who, What, When, Where, and Why of Library Discovery

Wearing his jester's hat, **Peter Murray**, Library Technologist and blogger at The Disruptive Library Jester (<http://dltj.org/>) asked what a discovery layer might look like five years from now and showed a video clip (<https://www.youtube.com/watch?v=K-kOCeAtKH1c>) of a recent ad for **Amazon's** new Echo System, (<http://www.amazon.com/Amazon-SK705DI-Echo/dp/B00X4WHP5E>), a voice-activated command and information system, which is one form of discovery.



Peter Murray

continued on page 69

**Murray** asked the audience to consider how present-day discovery services are different from Echo.

### Who

Who is our most challenging person to support? Do they know how to navigate the Web? Operate a mouse? Understand user interface clues? Do they have a speech, mobility, or visual impairment? Can they even form the question they are asking? The people we want to serve with our discovery layers have a wide range of skills and knowledge. Is there any way for us to get that context?

### What

The "what" should be rooted in the tradition of the reference interview: find the answer or provide instruction on how to find the answer. Do our discovery layers lead the user to the answer or are they just mimicking the single search box?

### Where

Do we envision black cylinders in an office, on the reference desk, or in a dorm room, like the Echo? Can we integrate the layers into the labs, performance spaces, etc. where the user could have a question to which they are seeking the answer?

### When

When do undergraduates do their research? Some of the contextual clues the discovery layer could use could be time of day, time of year, or day of week, so that it could ask whether the user is just looking for three best articles or doing an in-depth study. These are signals; Google uses over 200 signals when a user does a search so that it can tailor the results to their needs.

### Why

"Why" is a special signal and requires special handling. It has significant privacy implications; for example, we do not like to be followed by ads after asking a question. Libraries must respect user privacy. What can we infer from the questions users have asked over the past month? The "why" signal distinguishes discovery services from Amazon Echo, Siri, and other personal assistants.

Maybe some of the ideas discussed at the Forum will make a real difference in the discovery layers and related services used by our patrons. Here are some comments that **Murray** found significant:

- You should not have to educate your user, but if you could get better results after five minutes of training one of them, what would you do?
- Embedded librarians should not be thinking about competing with Mendeley, Google, etc. We should be working with those services for the benefit of our users.
- We should spend effort on realizing where users are when they want more information. How useful are discovery services for our students?
- Links for searching Wikipedia or Google are on many Websites. Why don't we have one for searching the library's resources? Users should not need to go to a library and set up access to the discovery service before using it. (For example, the link to Wikipedia from within the Digital Public Library of America Website works very well.)
- Think hard about what young people are doing when they're on Instagram, etc.
- Where do electronic resources turn up in the electronic health record?
- Can we construct a "privacy when desired" feature or have a "do not track me" button for some searches? Privacy is important, but users expect libraries to use their personal data in processing their searches.
- Walking through the stacks is great serendipitous browsing, but we must not forget that there are always books not in the open stacks.



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- How do we learn what users want while retaining serendipity? What is the balance between serendipity and finding the answer that the user wants? Do we risk alienating users if the system allows for serendipity but then gives them things they don't want? We need to broaden our idea of what serendipity means and expand beyond the idea of libraries as holders of monographs, serials, and other materials.
- Librarians have mixed needs in discovery. Quality discovery user interfaces do not always result in increased usage. How do we measure the value of our systems? Is rising usage good or bad? How do we answer the question "Did the user find what they needed?"

Slides from the Forum presentations are available at [http://www.niso.org/news/events/2015/October\\_discovery/agenda\\_discovery\\_forum/#agenda](http://www.niso.org/news/events/2015/October_discovery/agenda_discovery_forum/#agenda).

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