

**DISCOVERABILITY:
INVESTIGATING THE ACADEMIC LIBRARY'S CHANGING ROLE IN
CONNECTING PEOPLE TO RESOURCES**

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Abstract:

In October 2008, a small group at the University of Minnesota Libraries set out to explore the concept of *discoverability* of the Libraries' resources. Commissioned by the Web Services Steering Committee, the group identified trends in user behavior and analyzed data available from library systems and used the results to develop a set of principles. These principles are helping to guide the Libraries' strategic decisions as they relate to discovery. This case study describes how the group performed its analysis, identifies questions and

issues uncovered in the process, and provides examples of how the guiding principles have affected planning and analysis throughout the Libraries.

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Introduction

Like most academic libraries at research universities, the University of Minnesota Libraries offer users a dizzying array of resources online: a traditional OPAC containing millions of records for physical and digital materials; a newer "discovery interface" that puts those same records in a faceted, relevance-ranked search engine; and thousands of licensed electronic indexes, databases and books. In an attempt to provide a seamless experience for users, the Libraries invest significant staff time in the development and management of research guides and instructional materials, as well as a dozen or more distinct systems hosted locally, to knit together discovery and delivery of information resources.

Recognizing that historical distinctions between systems, information technology, and public services were increasingly at odds with users' needs and experience, the Libraries established the Web Services Steering Committee (WSSC). The WSSC attempts to represent the voice of the user and assumes the responsibility of exploring opportunities to improve user experience across library tools, resources and services.

In 2008, the WSSC organized the Discoverability Exploratory Subgroup (DESG). This article describes the work and findings of the DESG, which investigated services and service points that exposed the most relevant data on discovery behavior.

Process Summary and Discussion

When it convened in October 2008, the WSSC charged the Discoverability Exploratory Subgroup with "...recommending ways to make relevant resources more visible

and easier to find, particularly within the user's workflow." The charge called on members "...to consider a range of users, research needs, and resource or collection types, including collections that are not library-owned." The DESG was tasked with retrieving and analyzing usage data for the Libraries' systems and websites, and with evaluating trends in user behavior. The focus was to draw upon analysis and evaluation to recommend a set of guiding principles related to user discovery. The DESG work was projected to span two phases. Phase I concentrated on data collection and trends analysis followed by recommendations. Phase II was projected to carry out the recommendations of specific tools for discovery and directions that would facilitate and optimize the implementations of those tools.

The co-chairs and sponsors of the DESG chose to tackle Phase I by dividing the subgroup into two teams. The first, identified as the Trends team, was asked to research literature and distinguish key trends in user discovery behavior. The second, identified as the Stats team, was asked to review data logs and statistics and determine patterns in user discovery behavior. At the initial meeting of the DESG, the members self-selected their teams and the co-chairs agreed to participate in both groups.

Stats Team

The Stats team began its work by identifying as many potential sources of data as possible. Due to the fluctuations in system use over the course of an academic year, data collection for most sources focused on one month. Because October is typically the busiest month in an academic library's year, the team selected October 2008 as the "Month in the Life of the Libraries." Working from a list provided by the sponsors and supplemented with group brainstorming, the Stats team chose the following systems to review:

Library web server. The University Libraries website includes both the primary domain (<http://www.lib.umn.edu>) and a number of subdomains. Subdomains exist for each library within the system (such as <http://biomed.lib.umn.edu>), as well as certain buildings (<http://wilson.lib.umn.edu>, for example). Statistics on domain and subdomain visits were gathered from the Libraries' AWStats program, which ingests and parses Apache web server logs. In addition to reporting the number of times a page is accessed or viewed, AWStats logs how users got to the site: direct link, another Web page, or search engine. If a user comes to the site through a search engine, AWStats captures the keywords used in the search. Analysis showed that users rarely viewed pages beyond the Libraries' and subdomains' home pages. However, a few secondary pages accounted for a disproportionate number of visits. Users were directed to these pages largely through Google searches.

Library catalogs. Just a few months before the DESG's inception, University Libraries launched a new catalog based on The Ex Libris Group's Primo platform and branded MNCAT Plus. Although the Libraries' home page features a MNCAT Plus search box, the previous Aleph OPAC user interface—branded MNCAT Classic—still receives considerable traffic. Each interface provides statistics on how often various features are used: basic vs. advanced search, filters or facets applied, and so forth. Although catalog records are not directly exposed to search engines, the catalogs still received considerable traffic from external sources such as OCLC services.

OpenURL link resolver. University Libraries uses The Ex Libris Group's SFX OpenURL link resolver. The SFX menu, Find It, is perhaps the most-used webpage in the Libraries domain. SFX acts as a conduit for users to connect to our licensed content from external and internal databases and search tools. Statistics logged include the source of the SFX request as well as the request's target. Data showed that users reached the SFX menu

through Google Scholar, PubMed, and other large databases 75 percent of the time.

However, three of the top five request sources were the Libraries' alphabetical listing of all journals, the MNCAT catalog, and SFX Citation Linker.

Individual databases. Because vendors report usage statistics in different ways, the Stats team chose to investigate only vendors that supplied COUNTER- (Counting Online Usage of NeTworked Electronic Resources) compliant statistics. Rather than attempting to gather statistics for all COUNTER-compliant databases, the Stats team limited its analysis to five of the top ten most-used databases. Analysis of statistics was complicated by the many ways a user might come in contact with a database: through the "front door" via the Libraries' proxy links, by executing a federated search, through SFX when finding full text of an article, or by going directly to the database with a bookmark and authenticating via IP address.

Finding aids. University Libraries uses University of Michigan's Digital Library eXtension Service (DLXS) to make Archives and Special Collections holdings searchable online. DLXS indexes Encoded Archival Description (EAD)-formatted finding aids and presents them as HTML pages, enabling the Stats team to use AWStats data to analyze how finding aids are used. Because DLXS statistics are measured using the same tool as the Libraries website, the Stats team was able to make some comparisons about how users approach these two different sets of web pages. For example, users of the main site viewed an average of about four pages per visit, while Finding Aids users viewed an average of almost twelve pages. Twenty-five percent of Finding Aids users spent more than fifteen minutes per visit viewing DLXS pages.

Repositories. University Libraries maintains two repositories built on the DSpace platform: AgEcon Search and the University Digital Conservancy (UDC). AWStats data

allowed the Stats team to both explore use of individual items and analyze how users were finding those items. The University hosts a third repository, Minnesota Digital Library (MDL). MDL is managed by a state-wide consortium and promoted by many organizations throughout Minnesota, so its AWStats data provided the Stats team with a more generalized view of website usage. Statistics for all three repositories showed that extensive traffic was directed to individual items from search engines.

Interlibrary Loan. University Libraries uses OCLC's ILLiad product for interlibrary loan. ILLiad statistics contain information regarding the item requested, the actions taken by ILL staff, and basic demographic information about the requester. For discoverability purposes, cancellation statistics provided the most the most interesting data: If ILL staff cancel a request because the item is part of the Libraries' holdings, then the user must not have been able to discover the item on their own.

Federated search tool. University Libraries uses The Ex Libris Group's MetaLib product for federated search. Search boxes for MetaLib, branded Libraries OneSearch, are available in several places within the University Libraries website, but Libraries OneSearch has not been heavily promoted. MetaLib provides search counts by database as well as by database groups, or QuickSets.

Affinity strings. Beginning in the spring of 2008, authenticated library transactions captured the user's affinity string—a dot-delimited string indentifying that user's University affiliations—as part of the transaction log. The Stats team hoped that affinity string data could be used with other statistics to add a "who" dimension to the typical "how many" statistics. The early reports available in 2008, however, did not offer enough detail to be of much use.

Libraries staff and users work with other systems that the team chose not to pursue, either because statistics were not available or because the statistics did not provide any insight into issues and trends surrounding discovery. These sources included grant resources, subject guide pages, proxy server information, and subsites such as the Undergraduate Virtual Library. Detailed analyses for all the sources investigated by the Stats team can be found in the Discoverability Phase 1 Final Report.¹

As the next section of this article illustrates, comparing transaction counts is not as straightforward as it might seem. Rarely can any two transaction counts be compared directly. However, one can get a sense of the scale of the systems the Stats team investigated through the visualization shown in Figure 1.

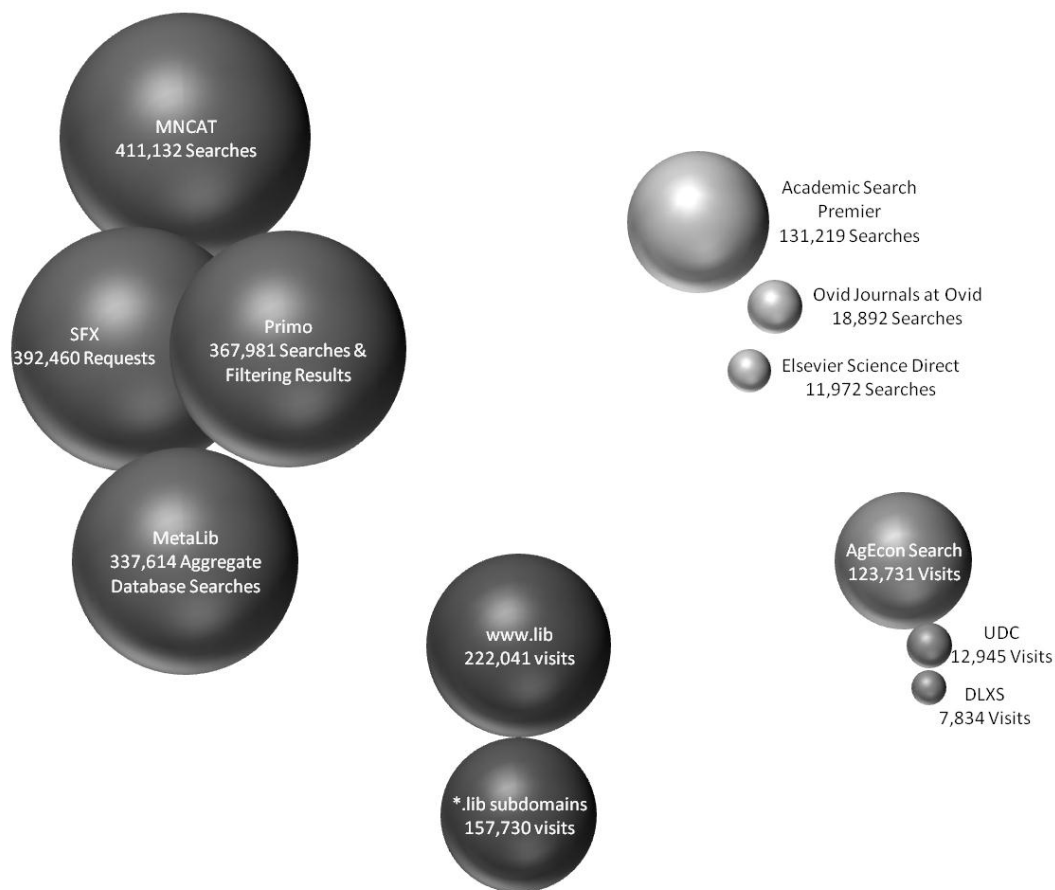


Figure 1. Relative scale of selected information transactions in October 2008. Created by, John Barneson, Web Application Developer, University of Minnesota.

Challenges: Comparing Data from Different Systems

The Stats team found that comparing statistics between the nine primary applications and various web/sub-sites and utilities was a complicated process that offered many opportunities to misinterpret data. Each of the applications fit the broad definition of a discovery system with many of them sharing similar vocabulary in their feature sets such as "basic search" and "advanced search" or "save to basket." The implementations of these features, however, varied enough to make direct mapping difficult without further research and, in some cases, even impossible. Comparisons among applications were further complicated by the impact of hits coming from non-native systems. The comparison of

statistics over time for a single application presented difficulties due to system version changes and changes in log maintenance.

The team found inconsistencies in how data are gathered with even the most basic discovery concept of “search.” For example, Primo allows the user to refine an initial set of search results by clicking on facets. A user might consider the initial search plus the refinements to be a single search. But Primo counted each facet click as a new search, equivalent to typing new terms in a search box in the Aleph OPAC or any of the other systems. Similarly, user-initiated searches within MetaLib often counted as multiple searches because the system logged a search for each database to which the request was sent. This problem was particularly apparent when a user searched one of the “Quick Sets” where multiple databases are grouped together based on broad discipline categories. “General Resources” was the default Quick Set and contained eight different targets. Therefore, each time a user searched General Resources, MetaLib tallied eight searches.

Most of the systems analyzed by the group can be searched or browsed using more than one method. The group attempted to determine users’ most common search methods, but full analysis required deep understanding of how transactions were logged and where each method was available. As shown in Figure 2, the group discovered that the top-ranked method of searching/browsing the Aleph OPAC during October 2008 was via the Z39.50 protocol. The University of Minnesota Libraries participates in the MnLINK Gateway, a federated search system that includes most libraries within Minnesota. The University of Minnesota (UMN) is included in the default set of targets to be searched, so a user must “opt out” in order to avoid searching UMN. Furthermore, the MnLINK Gateway “polls” multiple times for one search, driving up hits against the native system that do not necessarily represent user intent.

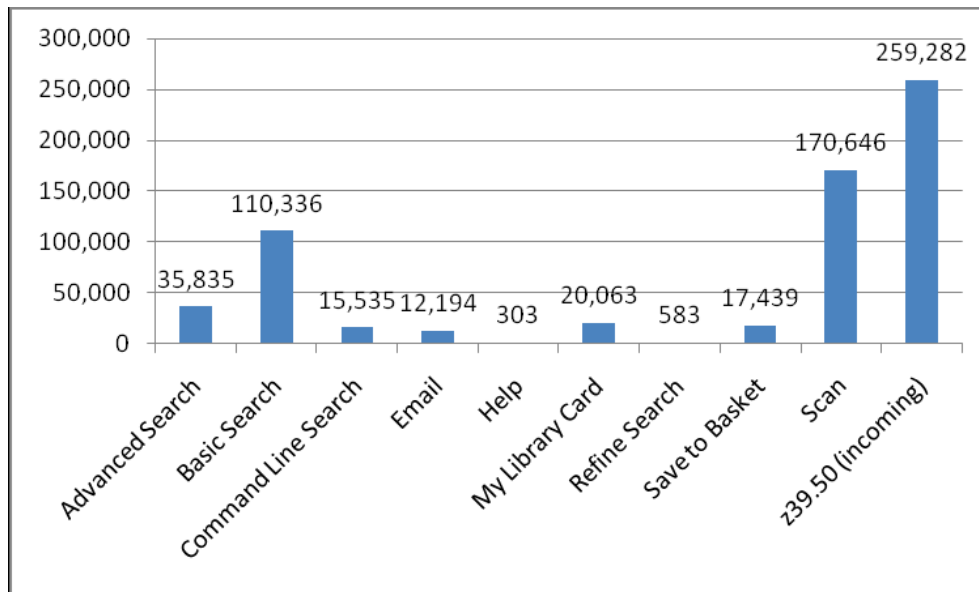


Figure 2. Count of Aleph OPAC searches by search/browse method for October 2008.

MnLINK Gateway searches accounted for about 40 percent of the Z39.50 searches in October 2008. The group did not attempt to mine the Z39.50 logs any further to determine what other system or user behavior contributed to the high Z39.50 activity during that time. A later review of the logs for a one-month period, April 18 – May 15, 2010, showed that a little over 72 percent of the Z39.50 activity came from an OCLC IP address. The MnLINK system is now hosted by OCLC, but it is still unclear whether all of this activity derives from the MnLINK Gateway or from other OCLC systems. Referrer data cannot always supply all the details that would be most helpful when analyzing system usage. Although users searching the UMN catalog through MnLINK Gateway do not see the UMN discovery interfaces, their searches for UMN resources are counted in the same way as more traditional catalog searches.

The team encountered the reverse problem when investigating the AgEcon Search repository and the University Digital Conservancy (UDC), where both systems expose content to Google. The two repositories store primarily PDF documents, and expose those files directly, along with their associated metadata. AgEcon Search, a well-known resource

for agricultural economists, only displayed its internal search results page 700 times during October 2008. Looking at that statistic in isolation, one might assume that AgEcon Search is underutilized. However, when the team factored in downloads of the actual PDF files, system usage jumped to over 284,000 hits. In other words, most searchers discovered and downloaded AgEcon Search documents through search engines like Google rather than the native discovery interface.

Comparisons over time were complicated by regular change management processes that inevitably introduce new features, bug fixes, and new data structures. These changes can in turn alter the meaning of some statistics, and bring new issues to light. For example, the analyst that reviewed the SFX statistics noted that there was a pronounced increase in the number of times that the SFX menu was displayed after Primo version 2 was introduced and Primo was set as the default interface to catalog data. He surmised that Primo presented holdings in a tabbed display that rendered the SFX menu every time the holdings link is clicked, whether or not the material is in any way related to SFX and whether or not the user actually clicked on the “Additional Services Find It” tab. The team was at first surprised to see that only 10% of the Primo searches resulted in an SFX click-through. However, the 10% rate may not be unreasonable when so many Primo searches result in physical materials. For those materials, the user has no reason to view the SFX menu. However, this configuration appeared to have the unfortunate effect of implying that fewer searchers were finding value from the SFX menu, when the data rendered was based on the system rather than on user intent.

New features affect changes in how data is gathered and are relatively easy to identify. Bugs or design issues, on the other hand, may not be discovered until after data has been gathered. For example, an earlier version of the Aleph OPAC counted the number of “browse” searches inaccurately when the browse was performed in Mozilla Firefox. Browse

actions completed by using Microsoft Internet Explorer were counted correctly, but browses completed using Firefox were counted twice in the logs. Ex Libris corrected the problem in Aleph v19, which the University of Minnesota implemented a few months before the October 2008 snapshot. However, the team could not compare absolute values between browsing/scanning and searching over time, since previous statistics were known to be skewed.

Data comparisons, furthermore, can be complicated by changes in how search options are presented to users. The Libraries introduced Primo, in beta, in August 2007, but the Aleph OPAC was still the default interface to the catalog and the single default search box on the Libraries home page still pointed to the Aleph OPAC. In August 2008, the Libraries switched this single search box to point to Primo as the default. Given this switch, the group avoided direct comparison between systems, and tried to draw conclusions for each system using appropriate time frames around these two events.

Trends Team

The Trends team concentrated on identifying user behavior drawn from user studies. The team compiled and analyzed the most recent literature available as of December 2008 that described user discovery activity. The literature consulted included studies such as the task force report on resource discovery from the University of Wisconsin; usability tests by the University of Washington; The EDUCAUSE study of undergraduate use of technology; the 2008 Horizon Report; and articles written by leaders in the field, such as Peter Brantley, Lorcan Dempsey, Derek Law, and Clifford Lynch.

The numerous articles and studies read, shared, discussed, and analyzed by the team clearly revealed specific trajectories with identifiable trends in discovery behavior. Subsequently, the team began to distill trends that reflected a rapid rate of change and

external forces such as Google Books and the OCLC Policy. After much discussion, the Trends team identified five major trends that best reflected the broad shifts in user behavior uncovered in the literature. The trends identified for further investigation were:

Trend 1: Users are discovering relevant resources outside traditional library systems

Search, once one of the key skills and specialties of librarians, is now a daily activity for the vast majority of our users. What once required specialized knowledge and mediated access is now accomplished millions of times a day via Google using simple keyword searching, with results that are perceived as “good enough.” Users approach their research with an established history of search success which gives them confidence in their search skills.

Trend 2: Users expect discovery and delivery to coincide

Searchers do not distinguish between discovery and delivery in their web searches and increasingly find it discordant to experience this disconnect in the library environment. Even if the library doesn’t “own” the item, users expect to be able to access or request the item easily and quickly, preferably with a single click.

Trend 3: Increasing usage of portable Internet-capable devices

Rather than just supplementing the desktop computer, mobile devices are poised to become the primary means of Internet access for a critical mass of our users

Trend 4: Discovery increasingly happens through recommending

Users increasingly expect online systems to provide more than a literal response to a query.² Facilitating discovery requires us to develop and implement systems that push relevant content to users and that allows users to share content with others.

Trend 5: Our users increasingly rely on nontraditional information objects

The format of useful and discoverable information objects is much broader than those traditionally offered through libraries; users increasingly rely upon multimedia objects, data sets, blogs, and other “grey” objects to meet their information needs. The extent to which libraries remain relevant in the discovery process will depend, in large part, on the extent to which they can facilitate the discovery of these “nontraditional” information objects.

Matching trends to data

Working with the five established trends, the Trends and Stats teams convened to determine how the trends correlated with the local data. As a first step, the Trends team formulated questions for the Stats team to investigate. The Stats team was then responsible for gathering specific local data to offer empirical support for answers to the Trends team’s questions. Some of the questions posed included:

- What can identifiable data tell us about the usefulness of resource discoverability via MnLINK Gateway, sharing with coordinate campuses, and the CIC? Will the data expose the importance of the consortial layer to discoverability as opposed to delivery?
- Does data exist that indicates the level of local use of mobile technology?
- How much do we already leverage network opportunities, e.g., tie-ins with Amazon, Google, OCLC, LibraryThing, Wikipedia? Do we see evidence that these pages are driving people to our site?
- Can we find data to indicate whether searches via Google are for topic identification while known item searches in the local system are for delivery? Can we look at a

number of subject searches in the catalog and do a random qualitative analysis of catalog searches?

- There are strong indications that discovery is increasingly happening outside of the catalog. Are there statistics that can support/contradict this?
- What data is available that would expose how often article queries are abandoned because the user is directed and redirected to different interfaces, etc.? How much does failure of delivery affect research behavior and choices, and how much is it potentially linked to discovery behaviors?

Not surprisingly, some of the questions could potentially be addressed by data from multiple systems, while others were not likely to be answered by any currently collected data. The DESG had no difficulty recounting anecdotal evidence of the five trends in their daily work. Systematically supporting the five trends with local data proved more challenging. The data pointed to issues surrounding a question without really getting at the question itself.

Gaps were revealed in the data extracted by the Stats team and the questions posed by the Trends team. To help determine where to begin looking for correlations, the group created Table 1 “Potential sources of supporting data for each trend.” The left column lists the trends as they were initially identified; the trends and wording changed somewhat during the process.

Table 1. Potential sources of supporting data for each trend.

	Aleph OPAC	Primo	Ag Econ	UDC	Metalib	SFX	Illiad	Vendors	Images	Finding Aids	MDL	Library web	Sub sites	Affinity strings	Ref works
Library is not the starting point for discovery (includes network-level discussion)	X	H	X	X		X			H	H	X		X		
People expect delivery and discovery to occur together, quickly	X (Get It)		X	X		X	X								
Increased use of mobile devices (cell, netbooks, Kindle)	H	H										H	H		
Increased discovery happening through recommendations	X	H	X	X			X						X	H	
Searching is ubiquitous (includes self-reported skill in searching, search construction, NLP)							X								

The table indicates, for each trend, whether a particular source might provide relevant data. An X indicates that statistics are likely to exist that are related to the trend; H indicates that the group would have hoped that statistics would exist in the sources. That is, the existence of relevant data was “Hypothetical” rather than actual.

The attempt to identify and describe user behaviors by culling data from the library systems was a useful exercise. However, the process revealed that the data could rarely be used to express anything about user intent, which was the driving factor of the Trends team’s questions. At its best, the data offered a rich description of user behavior.

There was one very clear success in the data collection in support of the Trend 1: Users are discovering relevant resources outside traditional library systems. Even allowing for differences in how search is measured, statistics show that the library catalog was used more than any other single resource measurable by the Libraries. However, the DESG was able to find ample proof that users are connecting to Libraries-owned or –licensed materials through other discovery interfaces, and use of those interfaces is growing. For example, Figure 3 shows SFX requests that originate in Google or Google Scholar. Preliminary statistics show that the trend that began when Google Scholar launched in late 2004 is continuing at least through the 2009-10 academic year.

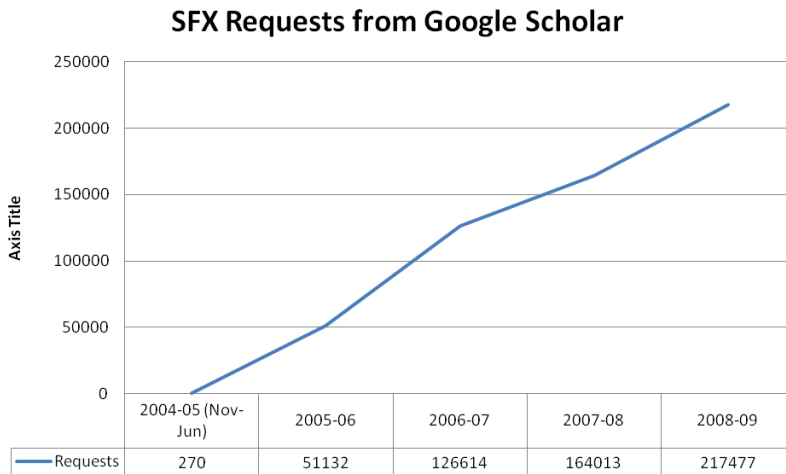


Figure 3. SFX requests originating with Google/Google Scholar.

Google and Google Scholar not only help University of Minnesota-affiliated users find and connect to resources at the Libraries: People both inside and outside the University are using Google and other search engines to find resources on our websites that are not cataloged. The University's James Ford Bell Library (<http://bell.lib.umn.edu>) documents the history of trade prior to 1800 CE through a collection of rare books, maps, and manuscripts. In addition, the Bell Library's website includes collections such as a series of short articles describing trade products in early modern history. The page listing each trade product article (<http://bell.lib.umn.edu/Products/Products.html>) drew more than 6000 hits in October 2008. People found the page through search engines such as Google and Yahoo, but also through recommendations: Many hits came from syllabi and pathfinders at other academic institutions.

Ultimately, in many cases, the data did not support the trends, or directly answer all of the questions. For example, in seeking support for Trend 2 (Users expect discovery and delivery to coincide), the group looked for evidence that users prefer online access over print materials. Anecdotally, librarians who handle reference questions felt that students often ignore useful citations if full text is not available online, even if an article is available in

print at a nearby library. The group looked to SFX data for supporting evidence and found that users in October 2008 were presented with full-text options 73 percent of the time when they viewed the SFX menu. However, SFX provides no data on whether the user clicked print location or interlibrary loan links for the remaining 27 percent. In this example and many others, data indicated what happened during a user's interaction with library systems, but did not indicate the user's intent.

Since some of the trends described phenomena that were happening externally, the very lack of data became the evidence of the trend.

The complications encountered due to different implementations of similar features, version changes and bug fixes, maintenance issues, and insufficient granular data resulted in a sweeping recommendation related to data collection and analysis in the Discoverability final report:

“Our overarching recommendation to the Libraries is that we implement systems and practices, including dedicated staff time, to ongoing and rigorous analysis of our system usage statistics across the Libraries, including, but not limited to, our catalogs, ILS, ILL, link resolver, proxy server, websites, and repositories.”³

Guiding Principles

After synthesizing the five identified trends and data collected from local systems, the DESG recommended a set of guiding principles. These principles are intended to help the Libraries make strategic decisions about the selection, development, and support of relevant tools and services. These guiding principles are:

- Users draw little distinction between discovery and delivery; systems, data, and information objects should be optimized for fulfillment.

- In order to remain agile and responsive in a rapidly changing information environment, our systems and data structures should provide us with the greatest possible flexibility for frequent iteration and reuse by ourselves and others.
- In order to best facilitate our users' discovery of relevant information, we should strive to be end-user device/platform agnostic.
- In order to remain responsive, relevant, and useful to our users, we must aggressively measure and analyze user behavior through local system statistics. These efforts will complement our ongoing assessments utilizing focus groups, usability studies, and reviews of applicable literature.
- Discovery should be organized around users rather than collections or systems. This organization should be based on realistic, evidence-based models of our users and their research tasks, e.g. task-based, persona-based, audience-targeted.
- Users are successfully discovering relevant resources through non-library systems (e.g., general web searches, e-commerce sites, and social networking applications). We need to ensure that items in our collections and licensed resources are discoverable in non-library environments.
- Making collections discoverable requires optimizing for access by local and non-local user populations; being good stewards of our collections means participating in cooperative ventures that provide broad access to our collections.
- Users rely on system- and peer-generated recommendations to discover relevant resources. We should capture the data necessary to provide targeted suggestions to users and defer to network-level systems where a critical mass already exists.

Impact of Discoverability Phase 1

The DESG findings set the stage for Discoverability Phase 2, which launched in May 2010. The final report from the DESG impacted other library groups and projects before follow-up work began in Phase 2. Examples where initiatives were taken based on the DESG report include:

- The Primo Management Group, charged in part with measuring user satisfaction with the MNCAT Plus discovery tool, designed survey questions to glean data about discovery tools our user communities turn to when searching for information.
- The Unravel Reassessment Group developed outlines for library instruction using Discoverability trends to explore how students are finding information in 2010.
- The Performance Support Group used the premise that discovery doesn't start with the Libraries to develop scenarios that would identify "dead ends" in the online library systems.
- The Digital Libraries Development Lab created a mobile version the Libraries website (www.lib.umn.edu/mobile/), in support of Trend 3 and the finding that use of portable Internet-capable devices is increasing. The mobile site drew traffic as soon as it went live.
- Trend 4, Discovery increasingly happens through recommending, was one factor in the Libraries's decision to try out bX Recommender, an Ex Libris service that adds usage-based recommendations to the SFX menu.
- The Archives and Special Collections Department used the findings of the reports to inform its process of redesigning access to online archival finding aids (a project currently in progress), particularly in the incorporation of recommender features.

Future exploration

As is often the case with such a broad survey of organizational practice, the work of the Discoverability Phase 1 group raised more questions than it answered, and provided the Libraries with distinct areas for further investigation and improvement. In addition to the work mentioned in the 'Impacts' section above, the Libraries responded by making discovery and delivery one of the areas of focus in the current strategic plan.

To inform plans for supporting a vision for the future, Libraries leadership organized engaging discussions and activities that were inclusive of all library staff and the campus, and, via webinar, the Committee on Institutional Cooperation (CIC) libraries. The speaker series sought "...to engage the Libraries staff in broad strategic themes that will shape the future of the University Libraries."⁴ These themes capture an arena of strategic importance to the University and to the Libraries. Through the process we will explore directions and potential investments." Directly relevant to the issues surrounding discovery and delivery was the November 2009 visit by Lorcan Dempsey, Vice President and Chief Strategist for OCLC.

By the Spring of 2010, the Libraries convened selected staff to begin work on Discoverability Phase 2. The group, in part, was formed of those who participated in Discoverability Phase 1, along with other appointed staff. The charge for Phase 2 was derived from the work of Phase 1, particularly the principle that "[u]sers are successfully discovering relevant resources through non-library systems... We need to ensure that items in our collections and licensed resources are discoverable in non-library environments." Furthermore, the Phase 2 group was specifically charged with the task of developing recommendations for strategic disclosure of metadata from local systems to external discovery environments, and with articulating a vision that states rationale for the

discovery services privileged through a local web presence. Through a process that favors the interests and insights of the user communities, an overarching vision of a discovery environment will be established to move the Libraries into the next era.

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