How do Library Clients Use Discovery Systems?

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Abstract

Resource discovery systems like Primo and Summon have developed rapidly over the last few years and have now largely established themselves as the industry standard – at least for research libraries – replacing the ‘traditional’ OPACs of the previous systems development cycle. The discovery systems have often been presented as inspired by internet search engines and social media, aspiring to provide library clients with a universal search and discovery experience, realising the previously illusory goal of the unified ‘single search interface’, and at the same time allowing for a personalised and interactive engagement between information seekers on the one hand, and library-curated resources on the other. But how far does the actual experience of discovery system users reflect the expectations of system vendors and library administrators? To date there have been few studies to examine this question. The present paper results from a research project into the use of the Primo discovery system at Curtin University conducted with the aim of understanding information seeking behaviour better in order to inform the development of systems. The paper focuses on questions of rationale and project design, and offers some preliminary findings.
Introduction

Over the last five years the Online Public Access Catalogue (OPAC) technology which from the late 1980s had been the principal tool through which library users came to know about library content has begun to be replaced by a new generation of discovery systems. While the OPAC in essence represented the application of computing technology to the nineteenth-century model of the card catalogue, the discovery system, exemplified by Ex Libris’ Primo or Serials Solutions’ Summon, is rather a projection of the methodologies of the internet search engine back on to the specific requirements of bibliographic control and retrieval.

Curtin University Library implemented the Primo discovery system (v. 2) in October 2009, initially in development mode and alongside the existing Aleph OPAC. At this stage Primo included records for library materials managed locally in Aleph, and also archival collection and institutional repository records handled separately in Digitool. In November 2010 Primo was upgraded to v. 3, and remote records from Primo Central covering journal content were also included in the implementation. Shortly after this, the Aleph OPAC was withdrawn from public access, and the following year the Library’s Metalib federated search service was also decommissioned as with Primo Central there was no longer a compelling case for a separate system to cover content indexed at article or chapter level. Further Primo upgrades have since been applied and the Library is now working with v. 4.8. With Curtin’s adoption of Alma as the principal back-end library management system in February 2014, some functions previously provided through the SFX link resolver service are now replaced by Alma services embedded in the Primo interface. Overall (although at present separate Digitool Resource Discovery interfaces are still available as well as Primo for searching institutional repository and archival collection content) Primo thus represents a simplification of systems from five to one from the point of view of a client searching for library materials. In addition, Primo now includes links to the Ex Libris bX recommended readings service and to an in-house database A-Z list constructed using data from Alma.

Curtin University has some 40,000 students and staff, on campus and geographically dispersed throughout Australia and overseas, who have a wide variety of purposes when using library systems to access information resources. The Library has regularly used satisfaction surveys (including Insync and Libqual) to monitor the degree to which services are meeting the requirements of clients and to initiate improvements in response to feedback. While perhaps the majority of the Library’s clients are now familiar with the Primo discovery system and largely comfortable with its use, anecdotal and qualitative survey evidence continues to suggest that some users find it difficult or unsatisfactory to use in comparison with previous services. Discovery system technology, moreover, is still developing rapidly and its implementation has not yet achieved a mature stage. Unfortunately, because of the general nature of the standard quality assurance surveys the available data is often rather unspecific about where the difficulties lie, and consequently does not always offer a clear path for improvement.

In order to explore the interaction between library clients and discovery systems in more detail, the University Library and the Department of Information Studies at Curtin have worked together to collect and analyse data about the use of Primo (protocol approval MCCA-18-13). The project has been designed to take evidence from three sources: sampling from the Primo system logs from 2013 and 2014, an online survey addressed to people
actually using the Primo system, conducted during the first Semester of 2014, and focus groups conducted in September 2014, the members of which were self-selected from participants in the survey. At the time of writing collection and preparation of the data is not complete, and while some reference will be made to the interim results, rather than examining these in detail, this paper seeks also to look at more general questions about the discovery system experience, which will provide a theoretical foundation for later specific analysis.

A number of studies relating to the implementation and acceptance of discovery systems have been published in recent years (Joc and Chang, 2010; Denton and Coysh, 2011; Gross and Sheridan, 2011; Slaven, Ewers and Vollmerhouse, 2011; Comeaux, 2012; Jarrett, 2012; Kaufmann et.al., 2012; Mahony and Mahony, 2012). These have tended to focus on the impact of newly introduced systems. Unsurprisingly, given the newness of discovery technology, little or nothing has so far been published on its impact or characteristics as a mature system.

**What do Discovery Systems Do?**

The initial development of discovery systems was informed by a good deal of research directed at identifying user expectations (Burke, 2010; Connaway and Dickey, 2010; OCLC, 2009; Sadeh, 2007; Sadeh, 2008). The guiding model has been the internet search engine, viewed since the mid-1990s as the standard and familiar method for interrogating information in the online world, emphasising a single search interface to facilitate rapid retrieval across a large body of data with results sorted by relevance-ranking algorithms which ostensibly guarantee the effectiveness of each specific search. In order to navigate through huge results sets the discovery systems typically provide the option to narrow down by facets, based for example on author name, resource type, format, or Library of Congress Subject Headings. At the same time, discovery systems have tried to insert themselves further into the web universe by encouraging integration with social media and other resource management systems (e.g. Facebook, Endnote), and by developing personalisation: providing, for example, internal mechanisms for tagging records, and tailoring relevance ranking to specified areas of interest.

Compared with the library OPAC, the discovery system entails a major perceptual shift in the way people think about retrieval. With the OPAC, as fundamentally with the card catalogue, library users construct a search that they think will get them what they want, then if it doesn’t, they refine it and start again. With the discovery system, on the other hand, you typically conduct a relatively broad search and then subtract from it to focus in on what you want. The first strategy tends to emphasise discovery of a known item, the second the discovery of a body of information. Moreover, the replacement of the previous multiple and often specialist tools for discovery with a single interface, while providing a more streamlined search experience, at the same time entails a breakdown of pre-existing ontological understandings of the information universe. At the same time, the temporary technical deficiencies of discovery systems as they develop may serve in the short term to obscure the way in which the search, discovery and delivery process is intended and designed holistically to work.
Discovery Systems and Indeterminacy

The advent of discovery systems has also brought with it a heightened sense of insecurity about some of the key words used to describe information resources as they are mediated to information users. In particular, the terms ‘catalogue’, ‘library collection’ and indeed ‘library’ are presently contested sites. At Curtin, although there was a strong feeling that Primo as a discovery service was not in fact a library catalogue in the sense that the term had previously been understood, the Library also recognised that the meaning of terms changes over time, and that it was preferable to accept Primo as the Catalogue in the same way we had accepted the various changes in the meaning of the term Library that have taken place over the last twenty years.

Discovery layers also throw a spotlight on the question of what a library collection actually is. Clearly library collections have not for some time been limited to things that are physically in the library, or alternatively accessible from library controlled servers. However, with Primo Central and similar products the library catalogue is starting to include bibliographic data for items that are neither materially owned by the library nor ‘library-curated’ in the sense of being accessible electronically from internal or external sources. This is because the aggregated data in Primo Central can easily go beyond what the library has purchased or subscribed to. It is indeed possible to activate in Primo Central and thus bring into the library discovery catalogue large bodies of records, demand for which the library cannot automatically fulfil. Document delivery is of course always potentially an option, but in practice a balance needs to be kept between satisfying library clients’ need for discovery, and conveniently satisfying their need for resource delivery. A choice can be made within Primo not to include non-accessible electronic items, or to separate them from the main search results, but however this question is addressed, it is clear that the old distinction between a library catalogue that can provide access to texts or other materials, and a bibliographic index that only provides metadata for these materials is something that will not be sustainable into the future.

A study of the library OPAC as a communication system conducted in the last years before the advent of the discovery system considered impediments to the effective flow of information between user and catalogue in terms of the ‘indeterminacy of the code’ and the ‘indeterminacy of the sign’ (Wells, 2007). ‘Code’ in this context refers to the set of conventions which underlie the double act of communication (question and answer) at the heart of user interaction with the catalogue. Specifically, these comprise on the one hand the body of cataloguing rules and standards according to which the catalogue database has been constructed (RDA, AACR2, MARC21, LCSH, DDC, local policy, etc.) together with the further rules governing the design of the catalogue software and its presentation of data to the user. At the same time, the Code also includes each individual user’s understanding of these rules and conventions – their knowledge of the way the particular library catalogue they are using is designed and implemented. Some of these factors are relatively consistent, though even cataloguing standards are in constant state of change; others, however, are much more susceptible to local and individual variation. The ‘indeterminacy of the sign’ refers to the inherent ambiguitues of language itself, which necessarily ensure that no act of communication is ever entirely complete.
While the indeterminacy of the Sign is an unavoidable part of the human condition, in the context of the OPAC certain things can be done to reduce the complexity of the Code – insuring that data is as consistent as possible, for example, ensuring that functions and categories are clearly distinguished in search functionality, including reference to the way the catalogue is constructed in information literacy training. With the present generation of discovery systems, however, the proposition has become a great deal more complex. First, catalogue data is now taken from multiple sources often relying on different data models applied with varying degrees of quality control, and normalized with greater or lesser effectiveness. And secondly, users’ grasp of the conventions by which the data is brought together and presented, never strong in the first place, is placed under more strain by the apparent speed with which discovery systems have been introduced and the ongoing modifications to which they are subject as they mature.

Discovery Systems and Information Literacy

Library discovery systems present distinct challenges to the teaching of information literacy. It is by no means clear that library users, particularly those experienced users who were acculturated to the older OPAC technology, have yet fully adjusted to the perceptual shift in search and retrieval implied by discovery systems, and the adjustment process is not assisted by inconsistencies in implementation and performance as these new systems come to maturity. In particular, the skill to identify what is not required and should therefore be eliminated through filtering is not self-evident and may need to be developed. More seriously for the longer term a conflict arises between the marketing and presentation of discovery systems as a total discovery experience on the one hand, and, on the other, the reality that no discovery experience can ultimately be complete (Brown and Simpson, 2012). Notwithstanding the similarities in form between internet search engines and library discovery systems, their scope and purpose differ significantly. While users clearly benefit from the reduction of library interfaces that discovery systems afford, they will continue to need guidance on the limits of these systems and how to go beyond them when necessary. At the same time, through simplifying the actual experience of searching, discovery systems appear to allow greater attention to be paid in information literacy classes to the nature of information itself and to the evaluation of search results (Cmor and Li, 2012).

User Expectations

The survey instrument made available to users of the Curtin Library Catalogue between March and June 2014 included three qualitative questions designed to identify the main areas where respondents felt that the Primo discovery system either met their requirements and expectations or failed to deliver an acceptable level of service. These questions were:

Q11. What do you consider are the best features of the Curtin Library Catalogue?
Q12. What aspects of the Curtin Library Catalogue to you find most difficult to use?
Q13. What functions would you like to see in the Curtin Library Catalogue that are not there at the moment?

Preliminary examination of the qualitative data collected through the survey indicates that the majority of responses to each of these three questions resolve to a relatively small number of persistent themes. Analysis of Q11 suggests that the integration of multiple systems and
particularly the seamless flow between search and delivery which Primo offers are features highly valued by users, thus confirming the validity of the model of the internet search engine as appropriate for library catalogue system design. Themes that were highlighted include: seamless linking and access to online resources, the usefulness of filtering and refining options, the range and scope of catalogue coverage, the ability to search regardless of the user’s location and on mobile devices. Other comments reported that the system was easy to use and that screens were clearly laid out.

The responses to Q12 and Q13 can be considered together as collectively identifying aspects of the Primo discovery experience which are barriers to effective use of the catalogue at Curtin. As is typically the case in qualitative surveys, respondents were readier to identify problems and suggest improvements than to note successful features. Some of the responses inevitably refer to perceived failures in collection development rather than catalogue functionality (e.g. requests for more ebooks, or more journals in specific subject areas). Some refer to obstacles with third-party information sources (e.g. requests for an easier method to download ebooks).

The responses to Q12 and Q13 highlighted areas where either the configuration or functionality of Primo in our current implementation was deficient, or the ‘indeterminacy of the code’ was presenting significant obstacles to effective use of the system. The majority of responses resolve to concerns with search options and features, problems with linking and downloading, dissatisfaction with the way in which filtering and refining options currently operate, issues with visual access and screen layout, difficulty in locating known items. A small number of responses identified technical problems with response time or indexing.

Isolating the precise factors or combination of factors which motivated the qualitative survey responses is not straightforward. The ‘indeterminacy of the code’ operates at multiple levels and an issue as reported by a catalogue user does not always provide adequate information to determine the underlying cause of the problem. More detailed analysis of the responses will be supplemented by the planned focus group meetings to explore this area further.
References


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