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Positive Feedback: Using Interlibrary Loan Transaction Log Data to Inform Collection Development: Part 1

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Introduction

In spring 2012, the Associate Librarian for Access Services and Collection Management at Brown University Library requested an analysis of user and bibliographic data for faculty requests in the BorrowDirect and ILLiad systems, to provide some insight on possible gaps in the library's monographic collection from the faculty perspective. BorrowDirect is the interlibrary borrowing service offered by nine of the ivy university libraries: Brown, Columbia, Cornell, Dartmouth, Princeton, the University of Pennsylvania, Yale, Harvard, and MIT (MIT Libraries, 2012). ILLiad is the OCLC resource sharing management system employed by more than 10,000 libraries (OCLC, 2012).

Processing the Data

The Head of Circulation and Resource Sharing exported into separate Excel spreadsheets the data for Borrow Direct and ILLiad faculty transactions. A total 8,341 BorrowDirect faculty requests from January 2007 through December 2011 were exported into Excel then saved as a Unicode text file. A total of 10,864 faculty ILLiad requests from October 2006 through March 2012 were exported into Excel and saved as a Unicode text file. While each interlibrary loan system provided title, publication date, and publisher information, the ILLiad system also provided the language of the publication and the requesting department.

Each of the text files were loaded separately into the MarcEdit Z39.50/SRU Client software, which is a free MARC editing utility, produced by Terry Reese at Oregon State University. (Oregon State University, 2012) Using the ISBN and OCLC numbers as match points, the titles were compared to the OCLC WorldCat holdings database, resulting in the titles in MARC file format (.mrc). Nearly all the ILLiad records had an OCLC number to match against the OCLC

WorldCat holdings, and most of the BorrowDirect records had an ISBN to match. Any BorrowDirect title without an ISBN was excluded from the match process. The Marcbreaker tool was used to convert the file from MARC format (.mrc) to the MARC Breaker (.mrk) file format. Then, using the batch process function within the MarcEdit tool, the .mrk file was exported as a tab delimited file into Excel. Along with the title and match point data (ISBN or OCLC number), the 948 field for holdings information was exported into Excel. Sorting by the holdings information, the BorrowDirect transactions were narrowed from 8,341 to 6,377 transactions, to achieve a list of titles not held in the Brown Library's collection, that is, the gap titles. Similarly, the ILLiad transactions were reduced from 10,864 to 9,008 titles already held in the Brown Library. Simply by comparing the interlibrary loan transaction logs to the OCLC WorldCat holding database, one useful piece of information emerged. For the faculty requests within BorrowDirect, roughly 17% were for titles already held at Brown, and for the ILLiad requests, about 25% were for titles already held. Since our interest was mainly on gaps in the collection, the subsequent analysis focused only on titles not held in the Brown Library's collection.

Analyzing the Transaction Log Data

With 6,377 BorrowDirect transactions and 9,008 ILLIAD transactions in Excel spreadsheets, the data elements LC Classification, publication date and publisher were sorted and counted, using a combination of simple counts and pivot tables. For the analysis, publication dates were grouped into decades, and the LC Classifications were sorted to the SubClass level and assigned with the LC subject category description. The 6,377 BorrowDirect transactions were not de-duplicated; if the same title was requested multiple times, then it was counted multiple times in the subsequent analysis by LC Class and publication date.

For the ILLiad transactions, in addition to the LC Classification, publication date and publisher, the language of the publication, and the requesting department were also sorted, counted and analyzed. Of the 9,008 ILLiad transactions, only 2,833 requests had a LC Classification number for subject analysis. The 9,008 transactions were de-duplicated by ISBN and title to obtain a title list of 3,663 individual titles. This title list was then analyzed by publication date, language, and publisher.

Summary of the BorrowDirect Analysis

The 6,377 BorrowDirect transaction requests were primarily for recently published monographs, with 45% published between 2001 and 2011 and another 32% published between 1990 and 2000. The LC Class analysis indicated that there may be a gap in the monograph collection for humanities and social sciences, especially for language and literature (PQ,PN,PA,PR,P,PT,PS), history (DS,F) and philosophy (B). Although hundreds of individual publishers were represented, the publishers most frequently requested via BorrowDirect transactions were Clarendon/Oxford University Press, Routledge, and Cambridge University Press. The fact that most of what was requested by faculty from BorrowDirect were for recently published titles by major academic and university presses in the humanities and social sciences suggested that Brown University Library should adjust its approval and slip purchasing plans to be more inclusive of these subjects and presses. Several French and Spanish language presses also appear on this list of most frequently requested titles, which suggests Brown needs to be more attentive to foreign language publishers.

Summary of the ILLiad Analysis

The 3,663 titles requested by faculty via ILLiad were primarily for recently published monographs, with 64% published between 2001 and 2011 and another 19% published between 1990 and 2000. For the 2,833 requests with an LC Classification number, 506 or 18% were for Language and Literature (Class P), especially for General literature, for Greek and Latin, and for French, Italian and Spanish language literature. Another 484 transactions or 17% were for History

subjects (Classes D,E, F), especially the history of Asia, the United States, and the Americas. Nine percent of the transactions were for Social and Economic History and Welfare (Class H) subjects. Other notable subjects requested were: Art and Architecture (Class N and NA, 6%), Music (Class M, 3%), Philosophy and Psychology (Class B, 3%), Law (Class K, 3%), Education (Class L, 2%), and Internal Medicine (Class RC, 2%). Similar to the BorrowDirect transaction data, history and language and literature subjects were among the most frequently requested. One notable difference with the BorrowDirect data was the appearance of a science subject, Internal Medicine, among the most frequently requested subjects.

For the ILLiad titles requested, hundreds of international society and institutional publishers and smaller presses were represented. Of the larger English-language university and commercial publishers, the most frequently requested titles were from Oxford University Press/Clarendon (80 titles), Wiley/Blackwell (58 titles), Cambridge University Press (52 titles), Routledge (50 titles), Springer (45 titles), and Elsevier/Academic Press (30 titles).

Sixty-six percent of the titles requested were for English language titles; another 27% were for French, German, Italian, Spanish and Portuguese; another 3% were for Chinese, Japanese and Korean; and 4% were for other languages, including Arabic, Greek, Hebrew, Russian and other Eastern European languages.

Similar to the finding of the BorrowDirect transaction data, the ILLiad transaction data indicates that Brown University Library has some gaps in its collection for recently published monographs in literature and history subjects, and for several major publishers, again suggesting an adjustment to the purchasing profiles to be more inclusive. Although the majority of the requests were for English language monographs, there were a significant number of requests for foreign language titles which indicates a need to improve the collection's foreign language holdings.

The analysis of ILLiad transaction data by requesting academic department yielded some

insight into which departments and individuals are high frequency borrowers. The departments with the most requests were the departments of History, Classics, Education, and Comparative Literature. By combining the department data with the number of individual requestors, the departments with the highest per capita requests were identified as the departments of Africana Studies, French Studies, German, American Civilization, and Music. The ILLiad transaction data also provided the top individual requestors. This transaction data was useful to identify which departments and individual faculty members for the library's subject specialists to meet with to discuss how the library could better address their research needs.

Positive Feedback: Data-Informed Collection Development and Improved Communication

Partly as a result of the analyses of BorrowDirect and ILLiad transaction logs for faculty requests, Brown University Library altered its approval plan profile to include Routledge publications and remove some the non-subject parameters so that a greater number of recently published titles would be received. Since literature was one subject area identified as gap, the Library decided to purchase the Cambridge e-book package for literature that was on discounted offer.

The communication dynamic among the libraries' departments and with the academic departments improved. The summary results of the interlibrary loan transactions were submitted to the Associate Librarian for Access Services and Collection Management, the Head of Acquisitions, and the subject librarians as a group. Now armed with some insight as to gaps in the collection, the Library's professional staff began to use this data to make more informed collection development decisions and to be reassured that they were making good choices for the collection and the budget. For example, with the purchase of the Cambridge e-book package for literature, the Head of Collection Development commented, "I like making educated collection development decisions." In the late spring, for the first time, the

subject librarians were asked to prepared reports for formal budget hearings related to collection development priorities. While not focused specifically on interlibrary loan data, several subject librarians referenced the interlibrary transaction data in their budget requests. The subject librarian for education wrote in her budget request, "A review of the ILLIAD and BorrowDirect transactions for education materials suggest some gaps in the collection for current research interests. I believe this is based on the interdisciplinary focus of Education research, coupled with the research efforts of the junior faculty in the department....Education Faculty made 420 requests through ILLIAD between October 2006–March 2012, with an average of 28 requests per faculty member." The subject librarian for French Studies noted that "both Illiad and BorrowDirect transaction data reveal that language and literature subjects were among the most frequently requested. Illiad showed 349 requests or 5.6% for French Studies among the top 52% of 10,864 transactions from October 2006 through March 2012." The budget hearing discussions helped the subject librarians see the commonalities amongst their disciplines, and especially to notice new areas of research of the junior faculty at the university in Africana Studies, Asian Studies and foreign language study. Both the interlibrary transaction data and the budget discussions have led to the subject librarians to talk with the individual faculty and departments that seem to be underserved by the library's collection.

Conclusion

The analyses of BorrowDirect and ILLiad transaction logs were completed with a modest effort with existing tools of MarcEdit and Excel. While transaction log data may not always be as comprehensive or as complete as one would wish, it did offer a partial, snapshot view of the gaps in Brown University Library's monographic collection from the faculty perspective. The insights gained from the analyses helped to prioritize purchases, inform collection development decisions, and improve communication in the library and with the university's academic departments.

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Positive Feedback: Using Interlibrary Loan Data to Enhance Collections and Collection Development Practices: Part 2

Forrest Link, Acquisitions Librarian, The College of New Jersey

Abstract

At the College of New Jersey, researchers examined the relationship between books borrowed and books subsequently bought, likewise looking to refresh the dialogue between selectors and patrons. Researchers sought to answer two fundamental questions: What do ILL book requests and circulation data tell us about our collection and our patron needs? Can these data help us shape our collection development policies to better serve our patrons? To answer these questions, several comparative analyses were completed using recent ILL and circulation data to determine the effectiveness of purchasing methods and to examine differences in usage patterns and subject interests among undergraduates, graduate students, and faculty.

Introduction

One of the more underappreciated benefits of the integrated library systems used by most academic libraries today is their ability to maintain usage data. These data (including purchasing records, circulation transactions, and interlibrary loan requests) can offer sometimes startling insights into how well—or poorly—a library’s collection is meeting user needs. Additionally, sharing these data among work groups can have an impact upon future collection decisions by providing selectors with actual user feedback.

This study of The College of New Jersey (TCNJ) Library, conducted with the help and guidance of Cathy Weng, Head of Cataloging, and Yuji Tosaka, Cataloging/Metadata Librarian, sets out to investigate how well the book purchases made by TCNJ Library have met our user needs. It does this through a review and analysis of user data collected from our Voyager ILS comparing our collection patterns to circulation records and ILL requests. It seeks to answer to questions: What do ILL book requests and circulation data tell us about our collection and patron needs? And how can an analysis of ILL data inform our collection development decisions?

The study was originally inspired by a presentation by Cornell University Library’s Richard Entlich at the 2011 Charleston Conference where Entlich outlined some of his approaches to data mining the Voyager ILS to inform collection strategy. It was further propelled by the hiring of a

new Access Services/ILL Librarian at TCNJ, Bethany Sewell, who brought to the Library a keen interest in pursuing better ways to serve our ILL clientele and in fostering cross-departmental communication.

Preliminary Assumptions

For the purposes of this study, it was assumed that user needs are represented by titles circulated from the Library’s collection and by titles not owned but borrowed via ILL. Thus, by identifying circulated titles, it was assumed that these books met our user needs. Likewise, it was assumed that filled ILL book requests denoted user needs unmet by our collection.

Data Collection and Scope

Using Access reports, our Cataloging Librarian worked with 4 years of Voyager data (July 2008–June 2012) to extract a list of books purchased within the study period. He also collected data on the circulation of these titles during the study period. Finally, he assembled a list of books borrowed through ILL during the study period.

Our Cataloging/Metadata Librarian devised the scope of data collection which included all transactions for books circulated or borrowed via ILL having an imprint date of 2007 onward. LC classes A, C, S, U, and V were eliminated because of very low acquisition rates. Although the baseline for the study was 4 years of acquisitions, ILL, and circulation data, fiscal year (FY) 2008 to

2011, we included 2007 imprints because we were still buying some in FY 2008 and would have just begun to circulate and make ILL requests for lending 2007 imprints in the following year. We wanted to have an apples-to-apples comparison by examining circulation and ILL requests for the post-2007 imprints. The final data set (Figure 1) represented 82% of the books purchased and 30% of the books obtained via ILL during the study period.

Initial Findings

Taking the list of acquired books and breaking them down by LC class, we discovered that TCNJ Library purchased most heavily in the H and P LC classes. Twenty-one percent of the titles purchased were in class H and 14% in class P. Not surprisingly, these two classes also accounted for our largest percentages of circulated titles, 23% and 14%, respectively, of titles circulated.

The findings become quite interesting when ILL records are compared to acquisitions. Fifteen

percent of the unique titles borrowed were in class B, 14% in class H, and 24% in class P. These three classes accounted for over 50% of our ILL borrowing.

Another Way of Looking at the Data

These early findings led to a reconsideration of just what constitutes user need. If library lending in toto (titles coming both from the library collection and ILL) equals user need being met, then it can be suggested that the part of this total lending coming from ILL equals user need unmet by the collection. Thus, a close examination of ILL borrowing might reveal defects in our collection strategy.

Accordingly, two figures were created to highlight by LC class what part of total book lending was accounted for by ILL. The first figure utilized figures for overall lending numbers, taking into account sometimes multiple loans of the same title (Figure 2). The second figure accounted for unique title lending (Figure 3).

Data Set	
Acquired Books:	
Books Acquired 2008-2012	16,575
2007 and later imprint	13,571
ILL:	
Books Borrowed	5,636
2007 and later imprint minus LC class A,C,S,U,Y	1,682
Unique Titles 2007 and later imprint minus LC class A,C,S,U,Y	1,483
Circulation:	
Books Circulated	127,374
Unique Titles Circulated	60,273
Total books loaned 2007 and later imprint minus LC class A,C,S,U,Y	10,269
Unique titles 2007 and later imprint minus LC class A,C,S,U,Y	5,043

Figure 1. Data Set

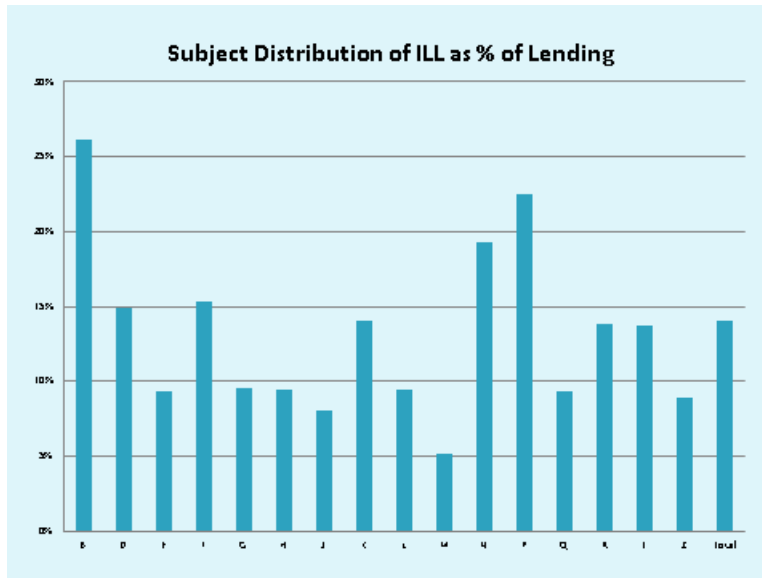


Figure 2. Subject Distribution of ILL as Percent of Lending

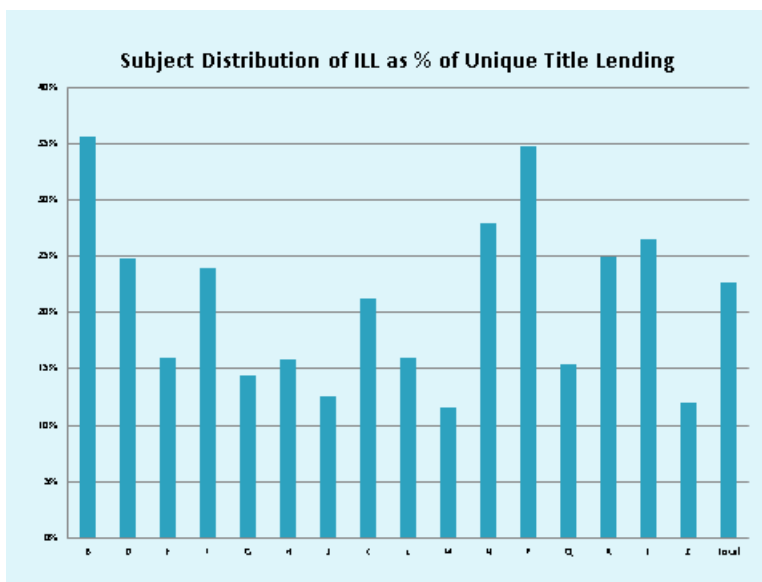


Figure 3. Subject Distribution of ILL as Percent of Unique Title Lending

Strikingly, these figures indicate very high ILL usage in classes B and P, where approximately 35% of our total lending originated as ILL.

But What Do the Data Tell Us?

Looking at these data, we began to wonder if we really did have deficiencies in our collection or if the high number of “P”s in particular might simply indicate a larger universe of titles in languages and literature which our collection could never

hope to adequately fill. And we wondered about all of the “T”s. Was there a problem, or were we looking at the “Long Tail”?

Chris Anderson, in an article in Wired Magazine and in his subsequent book, coined the term “Long Tail” to describe changes wrought by technological improvements in the discovery and distribution of products. In concrete terms, the term describes how demand for a book, for example, can be driven by improved visibility on

websites like Amazon either through broadening the database or even through user recommendations. This idea has subsequently been applied to library collection development and circulation, effectively updating the old 80/20 rule. So, as a result of better library discovery tools, patrons are exposed to much more than just the local collection. This, along with increasingly sophisticated library lending networks, has driven up the use of ILL.

The Lightbulb

We decided that a closer look at the ILL records themselves might help us answer the question. The T class gave us some clues.

During the study period, we borrowed 66 titles in the T class, technology. Thirty-two or 48% of these titles, it turned out, were directly related to knitting. TCNJ does not teach fashion design or textile work. Evidently, these books were borrowed by avid hobbyists.

Early Conclusions

It would appear that the study began with some inaccurate assumptions. All user need is not necessarily equal when judged by the mission of the library. That is, if an academic library is buying and borrowing books to meet user need, perhaps buying decisions should be based on definable user profiles. The question then becomes not “What should we buy?” or “Should we be buying (within reason) everything that is requested by our patrons on ILL?” but, simply, “Should we buy?” We cannot pre-judge the usefulness of a book without expert mediation by selectors.

Post-Study Questions

This study has led to the consideration of broader questions for future consideration: What constitutes a good academic collection? Should ILL requests continue to be seen as user needs or as part of the “Long Tail?” If ILL requests represent more than just the “Long Tail,” should the library re-examine its collection development policy?