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Marcie Kingsley

Western Michigan University

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Against the Grain

"Linking Publishers, Vendors and Librarians"

Circulation Statistics For Measuring Approval Plan Effectiveness

by **Marcie Kingsley** (Western Michigan University)
<kingsley@wmich.edu>

Circulation data for library books added through an approval plan can be both practical and fascinating in gaining insight into the effectiveness of the plan. Especially when compared to circulation for books added through other methods of acquisition — firm orders, gifts, vendor form selections — circulation data for approval plan books can highlight subjects or academic levels or patron groups most affected by the different modes of acquisition. The information can help in fine-tuning an approval plan to increase its efficiency in acquiring new books and to decrease the amount of time selectors must devote to requesting books for firm-ordering.

Though publications about approval plan circulation are scarce, the data are becoming increasingly easy to generate in libraries. In the many libraries that have automated both their circulation and acquisitions functions on integrated systems, librarians can capitalize on the systems' ability to output usable data. Even if combining circulation figures with acquisitions data—such as cost of books, fund used for purchase, or which circulations were approval plan books—is still beyond many systems, most installations can yield collection development data that can be processed by spreadsheets and database managers or at worst by hand. And measurement of collection use by circulation figures is a "natural" for evaluating approval plans that are designed for building current core collections; while circulation would not be as valid in interpreting use of research material, domestic approval books are generally bought for the purpose of current activity.

Colleagues who stimulated this research

In the last decade, many interesting articles have appeared on employing library circulation data in evaluating collections and influencing collection development decisions. While the "Pitt Studies" in the late 1970's gave library science a model of how to approach a usage study with a major commitment to precision and thoroughness, the last ten years have seen a bounty of less ambitious but equally helpful discoveries.¹ These studies have generated the kinds of information librarians genuinely need in managing collection development, and use of approval plan circulation is a logical extension of work already reported by some dedicated collection development professionals.

Charles Hamaker of Louisiana State University found — among numerous trends he documented in several articles—that 43% of library books cataloged in a sample month at his institution circulated within five

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If Rumors Were Horses

Just got word! **John Riley** (the Golf Man) <jdriley@javanet.com> is Eastern Book Company's National Sales Director. From one good company, Ambassador, to another, Eastern Book!

Ashgate Publishing has just announced the consolidation of its well-known imprints (**Avebury**, **Dartmouth**, **Scolar** and **Variorum**) as the first step in a series of new changes in the company's far-reaching international operation. As the company evolves from individual imprints into a single unified entity, Ashgate chairman **Nigel Farrow** emphasized that Ashgate will actively publish in the areas which each of the imprints have featured. As well, Ashgate is eager to expand its publishing program to include even more specialized areas within the social sciences and humanities. In addition to its full-service World Wide Web site <<http://www.ashgate.com>>, increased email capability, greater use of the Internet as a marketing tool through electronic brochures and press releases, and the development of a "virtual office" will be implemented. The virtual office will serve as a conduit

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months.² William Britten and Judith Webster found in their analysis at University of Tennessee that while the 921,596 monographs circulated on their Geac system from 1982 through 1990 had averaged 2.65 circulations each, the 8000 most-used books had circulated an average of 26 times each. As Britten and Webster looked for common characteristics such as subject headings shared among these high-circulation books, the researchers identified subjects like non-verbal communication where 99% had circulated at least once; book selectors could then target this and many other subjects for intensified collecting.³ There are many other publications available by these and other writers about circulation data in support of collection development.⁴

Among the few publications specifically about circulation of approval books is a 1974 article by G. Edward Evans and Claudia Argyres on their extensive use-study of books selected by librarians, by teaching faculty, and by approval plans in nine libraries; they found that approval books had the lowest circulation rates.⁵ More recently, Jane Treadwell, currently at Emory University, reported at the 1990 ACRL Conference on her study of 3000 approval plan books that had been in the library at Texas A & M University between one and two years. She found that 95% had circulated at least once. Among her intriguing findings was that 99% of science books in the "undergraduate" category had circulated, compared to 76% of the undergraduate humanities books — not a result most librarians would expect.⁶

In an informal study, Faye Chadwell at University of Oregon looked at circulation history of three months' worth of new university press approval plan books received from September through November of 1995. By late May of 1996, 48% of the approval books had circulated compared to 29% of other new books. Chadwell reported that compiling these figures was easy on an Innovative Interfaces system.

Approval plan information needs

At Western Michigan University, we determined that to analyze the effectiveness of our domestic approval plan, ideally we needed frequency counts for circulation of new books according to Library of Congress classification, subdivided by method of acquisition. We initiated two pilot projects that obtained interesting results and helped us clarify decisions for designing SAS (Statistical Analysis System) programs to claim this information from NOTIS more readily. The studies also revealed statistical reporting features we want in a new system in the near future.

We had three aims. Despite Evans' and Argyres' findings to the contrary, it seemed intuitive to us that our new, English language, mainstream academic approval plan books would circulate at higher rates than other kinds of acquisitions; we wanted to test this assumption. Secondly, we wanted to see the circulation data subdivided by LC class to distinguish what parts of the approval plan were successful or unsuccessful in filling patron needs; this would help us modify our approval plan or modify our firm-ordering. Thirdly we wanted to capture data on the most-circulated books in order to identify duplicate copies needed.

Circulation information for approval plan books

At the time of this project, our library had no existing reports being written from our NOTIS system that could be modified to obtain the approval plan circulation data. Our approach was largely manual and more expeditious than waiting for local programming to be done for NOTIS output. In the first pilot project we identified the range of bibliographic records added to the NOTIS database in September, 1995; at that time we were still downloading records only at the point of cataloging. Adjusting for time for cataloged books to be shelved, we determined the point at which the books would have been available for five months. We visually checked the records on NOTIS, ignoring any for audiovisual materials and books in non-circulating locations. We identified the approval plan books by the local 599 field added during the cataloging process. A check of the item record gave cumulative

circulation activity, and we recorded the frequency according to two-letter LC class and method of acquisition.

Table 1

Sample 1: Circulation after Five Months

	Number of books	Percent circulated	Percent circulated more than once
Total	1068	40%	15.5%
Approval books	557	50%	19%
Other	511	29%	11.7%

Of the 1068 qualifying books, 40% had circulated at least once in five months. That figure is very close to what Hamaker reported from Louisiana State University. Fifty percent of the approval books had circulated, while only 29% of all non-approval books had circulated. These results were very similar to what Chadwell had found at University of Oregon. In our sample, the approval books also had the highest percentage of circulating more than once.

Our data by two-letter LC classes was voluminous, but we needed only simple calculations and were not testing for statistical significance in our pilot project. We found that the books with the highest circulation rates were approval books in LC classes E (83%), HD (66.7%), HF (87.5%), and HQ (77%). The two areas of highest non-approval-book circulation coincided with the high-use approval areas: HD (60%) and HF (83%). The HQ's were an example of an area where we could see the contrast between the approval and non-approval circulation; of the HQ books, the substantial difference between 77% circulation for approval books and only 37% for "other" books seems to indicate the approval plan is working well in that area. In HF, as an example of an opposite case, there is only a four percentage point difference between the approval and non-approval books. Other interesting data that emerged showed that circulation for English and American literature areas was only moderate (although the single book with the highest number of circulations—six—was a PS call number which was purchased as a firm order).

Our second project was to analyze a group of books that had been cataloged and available for sixteen months and to differentiate among discrete categories of purchasing in addition to looking at them combined as "other." We used a different method since the NOTIS records we examined were entered in 1994, and at that time the library did not add any indication of method of purchase. We used as our base of information the bibliographic slips that accompany new books through the receiving and cataloging process. These include copies of the purchase orders for firm-ordered books, bibliographic slips provided by the approval plan vendors, form-selection slips, and handwritten temporary slips for such additions as gifts. We checked the database after the books added in November, 1994, had had sixteen months to circulate.

Table 2

Sample 2: Circulation after Sixteen Months

	Number of books	Percent circulated	Percent circulated more than once
Total	1147	54%	32.52%
Approval books	423	67%	36.17%
Vendor form selections	132	77%	52%
All non-approval books	724	46.6%	30.39%

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Total circulation was 54%, compared to 40% in the five-month sample. Approval plan circulation was again a higher rate with 67% having circulated at least once and 36% having circulated more than once. The 67% rate was still considerably below Treadwell's figure of 95% for her sample at Texas A and M University for books after an average of eighteen months in the library.

The lower circulation rate for the total of non-approval books in this sample was expected based on the similar results in the five-month sample. However, looking at several sub-categories of non-approval books rather than the aggregate gave us some unexpected results. Within the "other" books, the category of domestic vendor selection slip orders stood out as the most highly used monographs; these slips are an adjunct to our primary domestic approval plan. 77% had circulated at least once, and 52 % had circulated more than once in sixteen months. This information, if confirmed in additional samples, provides us with a focus for our collecting efforts that had not been evident before. Other data we were seeing for the first time supported our long-held assumptions that books purchased through two separate vendor form selection plans for German and Spanish books had minimal circulation.

Table 3
Highest Circulation by LC Class after Sixteen Months

	Approval Number	Approval: Percent circulated	Other: Number	Other: Percent circulated
E	16	93.7%	14	85.7%
HD			31	75%
HF	13	92%		
HG			14	78%
HV	15	93%		

The LC classes with the highest circulation rates overlapped only partially with the five-month samples. The highest rates were 93.7%, 92%, and 93% respectively for E, HF, and HV approval plan books, and 85.7%, 75%, and 78% respectively for E, HD, and HG "other" books. The most highly circulated individual book, *The Bell Curve*, was a BF call number that had come on the approval plan. It had circulated twelve times, and then was declared missing.

CONCLUSIONS

Primary aims

The results confirmed our assumption that the approval plan books in our samples would show higher circulation rates than the "other" new books as a group; we also learned that they did not circulate as highly as the domestic form-selection books. The division by LC class has proved valuable for differentiating how those general findings relate to specific subjects within the collection: results for some classes are consistent with the general findings, and for other classes they are at variance. Our additional purpose of finding the most-circulated individual titles was easily accomplished.

Be careful what you ask for...

The pilot projects clarified the approach we should take in having programming written to extract and report information from the database. Studying the results of several methods of acquisition rather than only approval vs. non-approval will be valuable. The latter approach was possible from our bibliographic records alone, which specified approval-plan receipts. The multiple kinds of acquisitions methods

will have to come from order-pay-receipt records — not a popular idea with our programmers. But we now understand how high a priority we should make this.

There is a lot to consider in asking for output. In addition to the kinds of data shown above, we also figured average number of circulations for books in each LC class and percentage by category for books that had circulated more than five times. The volume of information obtained is very large. Even though we divided our categories only into one- and two-letter LC groupings as opposed to using the 5000 subjects as outlined in the *RLG Conspectus* approach, we still have a lot of data to deal with. Any ideas that we might have had early on about obtaining information further subdivided by category of patron have been dimmed, although we want our future library system to be able to eliminate "pseudo-patron" charges such as circulation to the Bindery. Any computer programs we design or any similar functions in a new library system should be sophisticated enough to pull out for us the statistically significant variations.

And be careful what you don't ask for...

We also realize we should be careful about overlooking potentially important data. While LC classification served satisfactorily as essentially a subject-based approach, we would like to look at circulation data by method of purchase and by the funds books were purchased on. Our fund categories correspond primarily to the academic departments and so represent very broad subjects. It would be useful to see, for example, whether books purchased on Biology-Approval circulate better than Biology-Firm Order. In most of our collection development work, these departmental funds and the respective book selectors are our focus; we allocate funds to disciplines, not to LC classes. Statistics of use according to fund would support our discussions and some of our decisions. In general, however, we project that approval plan circulation statistics are valuable whether correlated to LC class, patron category, fund used, or other variables.

Footnotes

¹Kent, Allen, et. al. *Cost-Benefit Model of Some Critical Library Operations in Terms of Use of Materials: Final Report*. Pittsburgh, PA: University of Pittsburgh, 1978.

²Charles Hamaker, "Some Measures of Cost Effectiveness in Library Collections," *Journal of Library Administration* 16, No. 3 (1992): 59.

³William A. Britten, and Judith D. Webster, "Comparing Characteristics of Highly Circulated Titles for Demand-Driven Collection Development," *College and Research Libraries* 53 (May, 1992): 240.

⁴For example, Robert K. Baker, "Using a Turnkey Automated System [Dynix] to Support Collection Assessment," *College and Research Libraries* 51, No. 4 (July, 1990): 360-366; also Tschera Harkness Connell, "Comparing the Circulation of Library Materials Ordered by Faculty and Librarians," *Collection Management* 14, No. 1/2 (1991): 73-84.

⁵G. Edward Evans and Claudia Argyres, "Approval Plans and Collection Development in Academic Libraries," *Library Resources and Technical Services* 18, No.1 (1974): 35-50.

⁶Jane Treadwell, "Circulation Patterns of Recent Imprints." In *First Century: Proceedings of the Fifth National Conference of the Association of College and Research Libraries*. (Chicago: ACRL, 1989): 230-234.