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Patron-Driven Acquisition Optimization and Workflows at Liberty University Jerry Falwell Library

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Patron-Driven Acquisition Optimization and Workflows at Liberty University Jerry Falwell Library

Introduction

Liberty University is a private, liberal arts college in Lynchburg, VA, founded in 1971. In the past five years, the university has experienced substantial growth in enrollment, both for online and residential students. At the time of this writing, Liberty had over 60,000 online students and more than 12,000 residential students. Because of this institutional attribute, e-resources are an important investment for the Liberty University Jerry Falwell Library.

In February 2010, the library participated in an electronic book patron-driven acquisition (PDA) program through the e-book vendor, ebrary. In preparation for the pilot, the library limited titles to be added to the local catalog by publisher, cost, and publication date. After the pilot ended in September 2010, the library determined that PDA was an effective means of collection development for electronic books and chose to continue participation in ebrary's ongoing PDA program. As time passed, the library developed procedures and programs for the management and analysis of the PDA collection. The purpose of this paper is to share that process with other libraries in hope that the collection analysis procedures developed by the librarians at the Jerry Falwell Library will prove useful to other librarians wishing to perform similar functions.

Literature Review

While much has been written in recent years regarding PDA, the existing literature focuses on defining PDA (Madeiros, 2011), the background of PDA in libraries (Nixon, Freeman, & Ward, 2010), the initial implementation of a PDA program in a specific library (Bretibach & Lambert, 2011), or new PDA options and questions arising in the field (Dahl, 2012). Other articles address collection

management from various standpoints such as comparison of patron-selected titles versus librarian-selected titles (Shen et al., 2011), cost and circulation comparison between PDA titles and just-in-case titles (Schroeder, 2012), and surveys of user satisfaction (Reynolds et al., 2010). None of these studies specifically examine the same type of collection management process evaluated by the Jerry Falwell Library in this article. Furthermore, while De Fino and Lo (2011) address the implications of PDA for technical services departments, and Wu and Mitchell (2010) discuss the general management of e-book catalog records, neither article provides insight into specific practices used to manage the catalog records and acquisition process for an ongoing PDA program.

Technical Services

Practices and Procedures

From the standpoint of the technical services librarians and staff, the implementation of a PDA program required a few adjustments to the normal workflow. For example, normally, both print and electronic books follow a process from ordered to received to cataloged. In the case of PDA e-books, the process is somewhat reversed (Wu & Mitchell, 2010). The e-books are cataloged first, then as they are used and meet preset usage parameters they are purchased. After purchase, they are cataloged yet again with more complete metadata. Because the records for PDA e-books are loaded into the catalog prior to purchase, there must be a means of identifying those records should the need arise to remove them from the catalog (De Fino & Lo, 2011). For the Jerry Falwell Library, an Ex Libris Voyager client, the means by which to identify the ebrary PDA records is through the use of a statistical category "Ebrary PDA – not yet owned."

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ABSTRACT

In the spring of 2010, the Liberty University Jerry Falwell Library began a pilot patron-driven acquisition program with the e-book aggregator ebrary. In the fall of 2012, the program had been active for two years, and the librarians sought to optimize the program in the form of selecting more titles which are used. This paper describes the formula that the librarians used to achieve optimization in the PDA program. Also described is the workflow involved with acquisitions and cataloging before and after the purchases are made.

... *Librarians could provide fast, easy access to monographs on a wide range of topics.*

Another aspect of PDA e-book management is the necessity of identifying which e-books have been triggered for purchase and are now owned by the library and which are still part of the PDA program and eligible to be triggered for purchase. The library also addressed this need with the use of statistical categories. While all PDA eligible books receive the “Ebrary PDA – not yet owned” statistical category upon load, the statistical category for triggered books is changed to “Ebrary PDA – owned.” This change in designation allows the library staff to manage and maintain the collection of owned materials without compromising the procedures in place to track those titles that have yet to be purchased.

As stated by De Fino and Lo (2011), a PDA participating library must be able to manage duplicate records when loading PDA eligible titles to their catalogs. Some libraries, such as Rutgers, choose to eliminate e-book duplicates of books already owned in print format (De Fino & Lo, 2011). The Jerry Falwell Library chose to allow duplicates of print books in the ebrary PDA program, but to eliminate duplicates of already owned e-books. This deduping process is handled through the Voyager batch load process in which records that are matched on ISBN are rejected from the load and saved to a separate file. The cataloging librarian can then evaluate the rejected records to determine if the match was for a print or electronic book. In the case of print book duplicates, the e-book records are added to the catalog manually. Duplicates that match on an already owned e-book record are rejected. Occasionally, it is determined that additional copies of an electronic book would be desirable for the library. In these cases, the e-book duplicate record is added to the catalog but not added onto the existing e-book records until the PDA title is triggered. Once the PDA title is triggered, rather than updating the PDA record, the holding and item records are transferred to the record for the already owned e-book and the original PDA record deleted in order to comply with vendor-neutral cataloging practices for electronic books.

Collection Management

Weeding and Collection Refinement

In the summer of 2011, an Electronic Books Librarian joined the library staff. The position was new and allowed for more dedicated attention to the ebrary PDA program. During that summer the profile underwent significant weeding. The original pool of possible titles totaled over 40,000 and, after weeding, it dropped to approximately 15,000. The weeding employed a broad stroke approach in order to make the process quick and simple. The next step was to expand the profile again, but more strategically.

There were three goals for the ebrary PDA expansion project. First and foremost, the librarians needed to meet the demands of the dramatically growing online population. The PDA program is ideal for the online students because the library is able to offer immediate access to a wide variety of content. The other option for online students is to be mailed physical books from the library through procedures similar to interlibrary loan. Secondly, the librarians sought to expand the PDA program in a data-driven manner, utilizing past usage data to increase the efficiency and accuracy of the selections for the profile. Lastly, the librarians’ preference was to create a formula within an Excel spreadsheet that could be reused and ultimately save time for future selections.

The Formula

The E-books Librarian collaborated with the Director of Finance and Assessment in order to create the formula. They used four years of ebrary usage data from both the Title Report, an ebrary specific report, and the COUNTER report (Counting Online Usage of Networked Electronic resources; see www.projectcounter.org). The usage data was combined into one spreadsheet, using Microsoft Access and the ebrary Holdings Report to make the merge. The COUNTER report does not include ebrary DocIDs (ebrary specific title identifier), and the Title Report does not include ISBNs. In order to combine the data, the Holdings

Report was also included because it contains both the ISBNs and the DocIDs and could therefore act as a bridge between the two usage reports. Since the matching had to be conducted with three large sets of data, the librarians used Access to merge the datasets into one. Once the data was prepared, the librarians began to manipulate it. The goal was to discover which data point would be the best option for predicting use. Library of Congress Classification (LC class), publisher, and publisher and LC class pairs were all assessed. The following procedures were followed for each possible data point. For each e-book, the COUNTER use for each year was averaged. Then the average for all years together was calculated, weighting the most recent year. The same was done with the Page Views. Next, each title was given a percentile rank for the COUNTER average and the Page Views average. The percentile ranks for the two usage statistics were then averaged into one percentile rank. A pivot table in Excel allowed the librarians to average the percentile rank

for titles in a given LC class, rounded down to the next lowest hundred. The pivot table becomes the lookup table for the formula which predicts use based on LC class range. For example, given a potential PDA title in the BS300 range, the formula will use the lookup table to determine what that class range's percentile rank has been historically. If the percentile rank was calculated to be 95%, then that number is placed into a cell next to the title, as seen in Figure 1.

Ultimately, the LC Class rounded down to the next lowest hundred was the data point chosen for assessing and predicting use. Some data points, such as publisher and LC class pairs, simply did not have enough results on which to base good predictions. For example, many of the potential titles which were run through the formula did not match any previous publisher and LC class pairs. Many of the percentile ranks were labeled "0%" because no such combination had existed in the profile before, not because the use was low. The

Figure 1

H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
LC Call	Price Bt	List Price	LC Class	LC Class	LC Class	LC Class	LC Num	LC Num	LC Num	LC Class	LC Class	LC Class Broad Demand (Hundred)	LC Class	
BX1793 --	70	70	BX1793 --	BX1700	BX1793	BX1793	1793	1700	1790	BX1790		0%	95%	50%
BV639.W7	50	45	BV639.W7	BV600	BV639.W7	BV639	639	600	630	BV630		0%	97%	65%
BD373 -- .J	50	45	BD373 -- .J	BD300	BD373	BD373	373	300	370	BD370		0%	45%	57%
BL580 -- .E	180	173	BL580 -- .E	BL500	BL580	BL580	580	500	580	BL580		0%	87%	60%
BL590 -- .F	190	189	BL590 -- .F	BL500	BL590	BL590	590	500	590	BL590		0%	87%	55%
BV4447 --	20	15	BV4447 --	BV4400	BV4447	BV4447	4447	4400	4440	BV4440		0%	63%	59%
BV4447 --	20	17	BV4447 --	BV4400	BV4447	BV4447	4447	4400	4440	BV4440		0%	63%	59%
BV4637 --	20	14.95	BV4637 --	BV4600	BV4637	BV4637	4637	4600	4630	BV4630		0%	93%	66%
BV825.3 --	10	2.99	BV825.3 --	BV800	BV825.3	BV825	825	800	820	BV820		0%	85%	49%
BV4468.2.	20	20	BV4468.2.	BV4400	BV4468.2.	BV4468	4468	4400	4460	BV4460		0%	63%	64%
BV4637 --	20	14.95	BV4637 --	BV4600	BV4637	BV4637	4637	4600	4630	BV4630		0%	93%	66%
BV4460 --	20	16	BV4460 --	BV4400	BV4460	BV4460	4460	4400	4460	BV4460		0%	63%	64%
BM496.9.S	40	35	BM496.9.S	BM400	BM496.9.S	BM496	496	400	490	BM490		0%	90%	54%
BM45 -- .P	50	45.5	BM45 -- .P	BM400	BM45	BM45	45	0	40	BM400		0%	48%	49%
B755 -- .S4	50	45.5	B755 -- .S4	B700	B755	B755	755	700	750	B750		0%	92%	48%
B755 -- .J6	50	45.5	B755 -- .J6	B700	B755	B755	755	700	750	B750		0%	92%	48%
B755 -- .K4	40	34.29	B755 -- .K4	B700	B755	B755	755	700	750	B750		0%	92%	48%
B2948 -- .S	30	24.95	B2948 -- .S	B2900	B2948	B2948	2948	2900	2940	B2940		0%	53%	60%
B395 -- .M	30	24.95	B395 -- .M	B300	B395	B395	395	300	390	B390		0%	59%	48%
B171 -- .W	30	24.95	B171 -- .W	B100	B171	B171	171	100	170	B170		0%	95%	57%
B137 -- .F5	30	24.95	B137 -- .F5	B100	B137	B137	37	0	30	B130		0%	75%	42%
B3279.H45	30	24.95	B3279.H45	B3200	B3279.H45	B3279	3279	3200	3270	B3270		22%	56%	54%
B3279.H45	30	24.95	B3279.H45	B3200	B3279.H45	B3279	3279	3200	3270	B3270		22%	56%	54%
B3279.H94	30	24.95	B3279.H94	B3200	B3279.H94	B3279	3279	3200	3270	B3270		22%	56%	54%
B1012 -- .	30	24.95	B1012 -- .	B1000	B1012	B1012	1012	1000	1010	B1010		0%	86%	62%
B395 -- .K4	40	34.95	B395 -- .K4	B300	B395	B395	395	300	390	B390		0%	59%	48%
B395 -- .E1	30	22.95	B395 -- .E1	B300	B395	B395	395	300	390	B390		0%	59%	48%
B3317 -- .F	20	19.95	B3317 -- .F	B3300	B3317	B3317	3317	3300	3310	B3310		0%	88%	66%
B3318.W3	30	22.95	B3318.W3	B3300	B3318.W3	B3318	3318	3300	3310	B3310		0%	88%	66%
B317 -- .H1	30	23.95	B317 -- .H1	B300	B317	B317	317	300	310	B310		0%	59%	53%
B3318.P68	30	22.95	B3318.P68	B3300	B3318.P68	B3318	3318	3300	3310	B3310		0%	88%	66%

specific LC Class (e.g. BS391.2) had the same weakness. LC Class rounded down to the next lowest hundred, on the other hand, captured most of the LC classes of potential new titles. A few of the new titles still fell into LC Class ranges with no previous data, but most of the new titles received a percentile rank. Thus, selections were based on the percentile ranks rooted in LC Class rounded down to the next lowest hundred.

The broad subject areas for the selections were already determined: religion, social sciences, communication studies, and history. The E-books Librarian used the ebrary acquisition portal on the ebrary administration web page to generate a title list based on selected LC Classes which was then exported for evaluation. Lists of potential titles for Religion,

Social Sciences, Communication Studies, and History were created. The potential titles were each run through the formula separately and filtered by the percentile ranks. Titles with a percentile rank of 75% and above were usually selected. Titles with 0% percentile ranks were still included if the 0% resulted from lack of data rather than low or no use.

The Catalog Load

The formula-selected titles were further filtered by publication date and publisher. Titles published earlier than 2008 and titles from non-academic publishers were not included. In September 2012, 11,768 titles were added to the library's ebrary profile. However, because duplicate titles were automatically rejected during the cataloging batch load process, only 8,970 records were added to the catalog. Half of the titles covered social sciences, and the other half covered religion, history, and communication studies.

Results

Cost

The program resulted in a significant increase in expenditure (see Figure 2). At the end of the first half of the 2013 fiscal year, the program had already cost more than it did the previous fiscal year.

Prediction Accuracy

While expenditures increased dramatically, it did not necessarily follow that the formula was accurate in its predictions. Titles in the 91-100% percentile rank range were triggered the most, but most of the titles added to the profile were in that range. The E-books Librarian also examined the number of titles triggered in each percentile rank range out of the number available in that range, as seen in Figure 3. The 91-100% percentile is still the range that was purchased the most. The next highest is in the 60% or less range, which is explained partly because some 0% percentile rank titles were still added to the profile because there was no data on the LC class range yet. The 61-90% ranges all go in a direction opposite of what was expected, so the formula is not completely accurate.

Figure 2

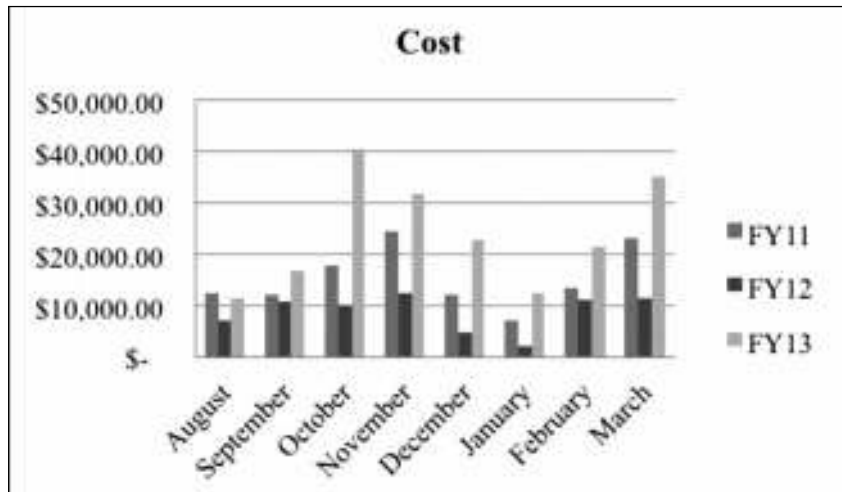
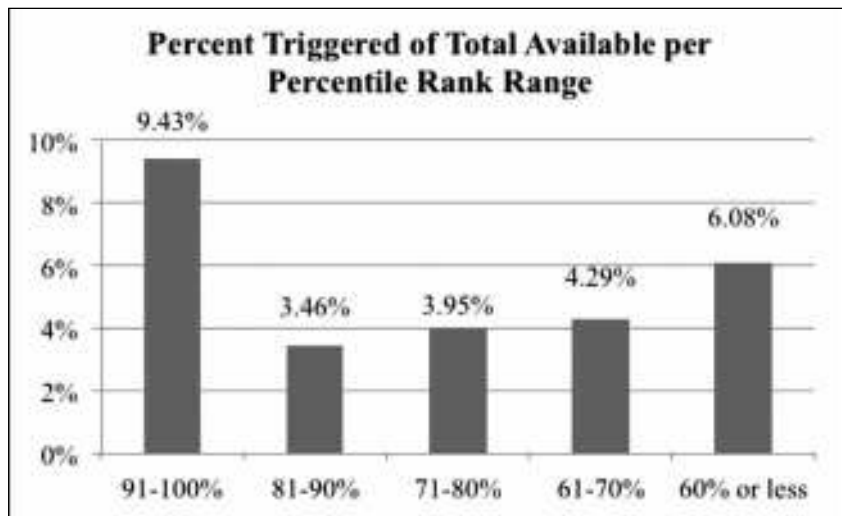


Figure 3



Continued Use

Another measure of success investigated was continued use. If the formula-driven titles were accessed more often than the non-formula-driven titles, then the formula would have made a positive impact on e-book selection. When the titles triggered in October 2012 were assessed for continued use through March 2013, both formula-driven and non-formula-driven titles followed a similar trend (see Figure 4). In both cases, most titles received 0 more months of use and the fewest titles received 4 more months of use. However, in the case of formula-driven titles, the drop from 0 months to 4 months is much less dramatic. The difference between formula-driven titles which receive 0 months of use and titles which receive 4 months is -46%. For non-formula-driven titles, the difference is -93%. Thus, overall, formula-driven titles receive more continued use than non-formula-driven titles.

Outcomes

The librarians' main goal was to expand the ebrary PDA collection strategically using past usage data. While the resulting formula was not completely accurate, as evidenced by the trend in Figure 3, the top percentile ranks were triggered the most, and formula-driven titles received more continued use than non-formula-driven titles. Further adjustment of the formula will potentially produce more accurate results in future purchases.

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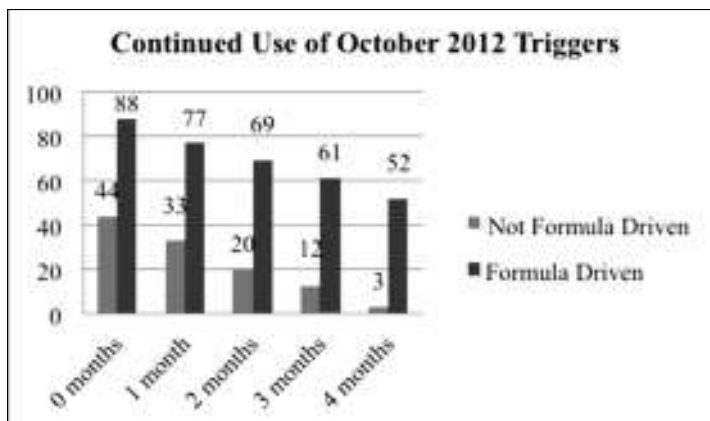


Figure 4

Conclusion

The PDA program at the Jerry Falwell Library has been a remarkable success, in large part because of the immense demands of the growing online population. Since Liberty University is a relatively young university and the print collection is comparatively modest, the electronic collection is also useful for the residential students and faculty. The program was one of the best ways that the librarians could provide fast, easy access to monographs on a wide range of topics without putting large amounts of library funds into titles which are never used. While many of the students and faculty in the user population may still prefer print, the speed at which users can access these materials makes them extremely valuable. The librarians will continue to adjust the program as demands and preferences change, but PDA is here to stay at the Jerry Falwell Library. †