Let the Data Speak: Use Statistics and Collection Management

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LET THE DATA SPEAK: USE STATISTICS AND COLLECTION MANAGEMENT

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Slides: http://www.katina.info/conference/2009presentations/Thurs2_Crain.ppt

ABSTRACT

Session focused on analyzing usage statistics to guide content decisions at a small-to-medium sized liberal arts college library. Actual student use patterns drive purchases of books and journal content..

Saint Michael's College has adapted allocation formulas to shift a significant portion of its book purchasing toward high circulation subject areas. Analyzing periodical usage data (relative to journal cost by discipline), the library retains subscriptions and renews databases according to a cost-per-use formula.

Data samples include: allocation of book budget based on circulation; collection analysis using circulation data; new subscriptions connected to "expected use;" interlibrary loan borrowing data; and retention of subscriptions based on cost-per-use.

Introduction: Usage Drives Content Decisions

At Saint Michael's College, we focus on buying materials which are projected, through evidence, to be used by our students and faculty. To achieve this, we use an allocation formula which shifts book purchasing toward high circulation subject areas. A biennial collection analysis documents high and low interest subject areas in the Library's collection. We retain subscriptions based on cost-per-article and we analyze abstract hits to anticipate "expected use" of unsubscribed journal titles.

To buy what our users want, we need *quantitative measures to support collection management decisions*. For college libraries which make use of statistical gathering services like *Scholarly Stats* or *360 Counter*, less time may be spent actually gathering some types of statistics. But local information still has to be entered and the math needs to be done. In the end, the most important part of gathering statistics is the analysis.

Using data, we are more accountable to our users and our administrators. And, more importantly, we can deliver the resources that our students will use for their course work. We can also measure whether we achieved our goals, and plan for the future.

Background

Saint Michael's College is a residential Catholic liberal arts college in Vermont. We have 1900 undergraduates; 30 major programs of study; 260 graduate students; 4 masters programs.

In fiscal year 2010, our materials budget allocation was \$681,000. At the outset, the materials budget is separated into "purchases" and "serials". This fiscal year, we will spend 33% of the materials budget on books. The percentage spent on books aligns with peer and aspirant colleges (source used: Association of College and Research Libraries averages from the report *Academic Library Trends and Statistics*). This method prevents inflation in the serials budget

from encroaching on the book budget. If we need to cut in the serials budget, we will, in order to maintain best practices for expenditures on books.

Percentage-based Allocation Formula using Circulation Data

To target book purchases toward user needs we use a percentage-based allocation based primarily on circulation data to allocate in subject areas. We use circulation statistics because disciplines for which demand for books is high should have a proportionately higher percentage of the book funds.

In the past we have used a number of methods including spending based on: number of faculty in a department; number of majors in a subject; and number of credit hours in a subject. However, when we used allocation methods unrelated to use data, we found that we were purchasing books in subject areas that did not match up with actual student use of books.

Examples:

At Saint Michael's College, students can take an introductory course in math to satisfy part of their liberal studies requirements. But students taking basic math have little to no need for secondary resources. When the fund allocation was based on credit hours, we were purchasing more books in math than were needed.

Business is one of our largest majors, and finance is a subject area which was getting a proportionately higher chunk of the book budget. However, students' actual use of secondary resources in finance is mostly databases, with little need for books.

When we used no allocation formula we found the book purchasing slanted toward more active faculty and librarian selectors, and not based on what students actually need.

Method for Calculating Subject Area Book Allocations:

- 55% divided based on circulation
- 45% divided among academic subject areas, with a fixed amount for subject areas in which we offer a major, a minor, or a graduate degree.

Allocations based on Circulation and Academic Program

Subject Area Funds	circulations as percent	\$102,000 x circulation percentage	\$2550 major \$2550 masters \$1275 minor	FY10 Form Alloc
Art	3.22%	\$3,284	\$2,550	\$5,834
Applied Linguistics/TESOL/ESL	6.49%	\$6,620	\$5,100	\$11,720
Biology	1.63%	\$1,663	\$2,550	\$4,213
Bus. Admin & Accounting	2.34%	\$2,387	\$2,550	\$4,937
Chemistry	0.13%	\$133	\$2,550	\$2,683
Classics	0.82%	\$836	\$2,550	\$3,386
Computer Science	0.64%	\$653	\$2,550	\$3,203
Economics	0.65%	\$663	\$2,550	\$3,213
Education	3.67%	\$3,743	\$5,100	\$8,843

Collection Analysis of Circulating Monographs

We do a collection analysis of circulating books every other year. The initial idea for this came from a presentation at the 2004 Charleston Conference presented by Lynn Silipigni Connaway, Heather Wicht and Jennifer Knievel.

The collection analysis of the circulating book collection shows high and low use subject areas. It provides guidance for decreasing, maintaining or increasing the book budget in subject areas. And it illustrates whether subject holdings are adequate to meet user needs.

The method for this collection analysis uses transactions per item in an LC classification. To calculate the transaction per item, take the total circulations and divide by the number of books owned in an LC classification. The *transactions per item* in an LC class will illuminate active subject areas.

Example:

Greatest Number of Circulation Transactions per item by Subject

FUND CODE	LC	Description	2 year 2007-2009 Circulation Transactions	Number of Circulating books	2007-2009 Transactions per item
JUV	PZ	Fiction and juvenile belles lettres	5,317	6,112	0.87
HIS	DP	Spain-Portugal	139	244	0.57
EDU	LA	History of education	287	507	0.57
BIO	QE	Geology	148	262	0.56
ART	TR	Photography	226	415	0.54
REL	BQ	Buddhism	219	414	0.53
GEN	GT	Manners and customs (General)	125	245	0.51
LING	PE	English language	1,873	4,130	0.45

The example above shows a piece of the collection analysis: the subjects with the greatest number of circulation transactions per item. The spreadsheet lists the acquisitions fund code, the LC classification, the total circulations in the LC class over a 2 year period, the number of circulating books, and the average transaction per item in that LC class.

The children's literature collection –the PZ's -- has the highest per item transaction rate. Each book circulated .87 times over a 2 year period. A smaller collection like the BQs (Buddhism) with 414 books, has a transaction rate of .53 per title.

What does the information tell us? Should we raise our allocation for children's books? Not necessarily. But the information justifies our existing expenditures on children's books. In areas like Buddhism where the collection is comparatively small, the information suggests that when we allocate for Religion, liaisons and faculty should be made aware of the data and order more books on Buddhism.

Interpretation of a Low Use Area

How do we interpret the numbers in a low use area? One interpretation is that the holdings are old and need to be weeded and updated. Another scenario is that the book format is less desirable, or this is not a research-intensive subject at our College. For this we need to look at interlibrary loan borrowing. We can check to see if students *are actually* interested in a low use area, but must use interlibrary loan because our collection is inadequate.

Circulation Percentages and Interlibrary Loan Percentages

LC	Description	2007-09 2 year Circulations as percent of total	2008 ILL Percent of total titles borrowed
PQ	French literature-Italian literature-Spanish literature...	1.81%	8.46%
HQ	The family. Marriage. Women	3.31%	5.55%
D	History (General)	1.78%	4.60%
E	11-143 America 151-889 United States	3.81%	4.06%
PN	Literature (General)	2.93%	4.06%
BX	Christian Denominations	2.98%	3.99%
PR	English literature	4.24%	3.92%
F	1-975 United States local history ...	1.43%	3.72%
PS	American literature	8.09%	3.32%
DS	Asia	2.95%	2.57%
BF	Psychology	2.53%	2.50%
GV	Recreation. Leisure	0.44%	2.37%
B	Philosophy (General)	1.27%	2.10%
BR	Christianity	1.58%	2.10%

In the slide above, the interlibrary loan data illustrates that we should focus on improving our monograph collection in the PQ's. We look at actual titles ordered through ILL, and high circulating titles in our own monograph collection, to tailor purchases toward high demand subjects within the PQ's.

Current Books - Analysis

In the collection analysis we also wanted to see how current books circulate. In this particular data set, we narrowed our definition of current books to newly acquired books, with more recent copyright dates. We set the parameter to more recent publication dates as a way to eliminate newly acquired gift books with older copyright dates. The results showed that in FY08, circulating books (with 2007 & 2008 publication dates) had a transaction rate of .37 circulations per item. In FY09, circulating books (with 2008 & 2009 publication dates) had a transaction rate of .50 circulations per item. This is compared to a transaction rate of .11 times a year for all books in our circulating monograph collection.

We can expect newer books to be more popular. We do more marketing for new books; new books are shelved in a prominent "new books" area; and we have a new books list on our web site. However, if we have been successful in targeting our purchasing toward more relevant books in higher circulating subject areas, we should see an increase in our circulation rates. Hopefully we only buy a book if we expect someone (in particular our students) will use it. The collection goal we have set based on these numbers is that by the end of fiscal year 2011, we expect new books to circulate .6 times a year. If we achieve this goal, it will be an indicator of whether we are succeeding in delivering the right books at the right time.

Annual Assessment of Subscriptions

With a culture of regular assessment of serials in place (Stambaugh, 2005), the library is proactive in migrating toward higher use, more relevant collections. This gives us more flexibility in our decision-making. Regular assessment is especially important because it allows us to be agile in lean budget years. When our budget is level-funded, or cut, we can be less reactive in our cancellations, and more proactive in focusing our renewals on materials that get higher use. We drop subscriptions with an unsustainable cost per use.

In an article by Emily Stambaugh in *Against the Grain*, she describes a transformation “from a one-time ad hoc project to a sustainable, on-going process of evidence-based review.” This culture allows us to form a user-oriented, subject-based approach to serials review. It is not about budget cuts, it is about fine-tuning expenditures and removing underperforming resources.

Annually, we compile our database and periodical subscriptions into spreadsheets calculating cost per article or, for indexes, cost per search. All of the information is reviewed with library liaisons in regular meetings and posted on our web site.

Using Data to Fill the Gaps

Many of our indexes are offered on the EBSCOhost platform. In EBSCOhost admin, there is a report that counts “abstract requests”. This is the number of times our users have clicked on the abstract after getting search results. We use the number of abstract hits to calculate unmet needs for journal content, and projected cost-per-use for new subscriptions to journals packages, individual journal titles, and aggregated databases.

2 year Abstract data from EBSCOhost title usage report – PsycINFO

ISSN/ISBN	Title	Abstract	SMC Holdings	Online price
00223514	Journal of Personality & Social Psychology	679	SMC	
15540138	PsycCRITIQUES	538		reviews
01627341	JOURNAL OF SPORT BEHAVIOR	535	SMC	
03600025	Sex Roles	519	SMC	
00121649	DEVELOPMENTAL PSYCHOLOGY	510	SMC	
00333158	PSYCHOPHARMACOLOGY	418	1 yr embargo	\$7,649
00332941	PSYCHOLOGICAL REPORTS	398	SMC	
03064603	Addictive Behaviors	389	SMC	
09567976	Psychological Science	387	SMC	
10413200	Journal of Applied Sport Psychology	358	SMC	
09652140	Addiction	330	1 yr embargo	\$2,353
01918869	Personality and Individual Differences	328	SMC	
0002953X	AMERICAN JOURNAL OF PSYCHIATRY	320	SMC	
00093920	Child Development	318	1 yr embargo	\$569

In the slide example above, based on abstract hits in PsycINFO, the decision was made to subscribe to Child Development to close the one year embargo in our access.

Enduring Issues

Is there a limit to usage driving purchase decisions? Yes. Purchases are mission-related. Library resources serve the curricular research and informational needs of the Library's primary users. We don't serve as a public library, but we are the student's library.

What is the role of selection -- the role of subjective information to complement usage data? The quantitative work serves as a guide for the liaisons and faculty selectors, who add the qualitative.

Even if materials may not get used, are there particular "must haves" for our institution? Sometimes a good librarian believes we should buy a certain book by a certain author, even though there is no evidence to support that our students and faculty will use it. And though I may disagree with a selection, collection building is a team effort and I am mostly concerned that we are moving in the same direction.

How do we measure whether we have been successful in providing the right materials at the right time? Circulation and usage statistics and survey feedback will reflect that.

"Math may be the language of the Devil,
but statistics prove that reality really is what you make it."

--Stephen Colbert
www.colbertnation.com

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