LIBRARY LEADERSHIP & MANAGEMENT

Measures of Change in Academic Library Behavior

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Introduction

Most of us working in academic libraries recognize that new strategies and practices are required given the changes technology has brought to higher education and scholarly communication.[1] Many libraries are implementing these strategies and practices, but it is difficult to move often long-established ways of doing things and to know how much progress is being made. At least in part this is because we are in uncharted waters and the old markers no longer measure the things that matter. What we need now are new measures to help establish how we are doing. It is a management truism that what gets measured is what gets done, and so until we have measures that direct us toward the changes we know we should be making, we are unlikely to go fast enough or far enough.

Traditional library statistics are not going to be particularly useful. They mostly measure the budget and how it is allocated to staff and collections. This is an understandable default as typically staff and collections account for 90% of an academic library's spending. A good example of this approach is the ARL Investment Index.[2] It is also the case that money matters and the amount an institution is willing to invest in its library says something. Beyond budget, traditional library statistics have collected outputs such as circulations and other uses of print and digital collections, interlibrary loans, gate counts, hours, and counts of reference questions and instructional activity.[3] Given the changes academic libraries are undergoing many of these items matter much less than they once did and they fail to capture much that is becoming important. The *ACRL Standards for Libraries in Higher Education* offer some guidance, but purposely don't provide specific measures.[4]

Some interesting and important work has been done in showing the impact of libraries on student academic success. Much of this work has been supported by the ACRL Value of Academic Libraries program.[5] Collectively this work demonstrates the value of various library programs and strategies usually by correlating them with measures of student academic success. This work has built expertise in and a practice of assessment in many academic libraries that is significant, but the project has yet to establish measures that could be used to assess the progress of a library or to compare how one library is doing compared to its peers.

Recently Ithaka S+R and OCLC Research announced a study, "University Futures; Library Futures," that the *Inside Higher Ed* article on the project describes as answering the question, "How do you measure the impact of a library when the number of books on its shelves is no longer its defining characteristic?"[6] The study is intended to look at the diversity in the educational landscape and explore the different ways libraries can contribute to their campuses. Deanna Marcum the principal investigator from Ithaka S+R says about the project, "This is not an answer, but it's an exploration. There are so many ways of looking at the future

of the library, and this will help us have that discussion."[7] It will be interesting to see what comes of this work, but we are unlikely to get specific measures that individual libraries can use to measure their progress or their standing among peers, at least form the first iteration of the project.

Given the current lack of good measures to help academic libraries navigate, I would like to propose some. I do so understanding that this is a first effort and that inevitably revision will be required. But, we have to start somewhere. My strategy is to propose measures tied to particular goals that I believe will be part of the transition that academic libraries need to make.

The focus will be primarily on collections and the staff who support them. This will be done for several reasons. First, it is where libraries spend most of their money and the opportunity costs for inaction are the highest. Second, I believe the change in how libraries approach collections is the most fundamental change they are currently engaged in. This flipping of the understanding of collections from what Lorcan Dempsey calls "outside-in" to "inside-out" will be difficult to accomplish and to explain, so measures here are particularly important.[8] Finally, the Value of Academic Libraries project has done good work on libraries and student academic success and while established measures have yet to emerge from this work, this is not an unlikely outcome.

Goals and Measures

To help to navigate the disruptive journey academic libraries are on, I would propose the following measures. The measures are grouped under goals. In my view, these goals are ones all academic libraries should be working toward, though it is clear different kinds of libraries will approach them in different ways and they will have a different priority depending on the kind of institution the library serves. This will lead to different targets for different measures depending on the type of library.

These measures should be thought of in the way we think about accounting ratios. They would be an established and clearly defined set of measures that could then be used to access individual libraries over time or one library against a set of peers. We would not expect that the measure would be used across all types of libraries any more than we would expect different accounting rations to be looked at differently from industry group to industry group.

We will look at four goals and several measures under each goal.

Goal 1*: Retire the legacy print collection and redevelop library space.* This goal is important because it reflects on the use of one of the library's primary assets — its space. Space is the most valuable non-human resource on any campus. The opportunity cost of using space to store print materials that receive little or no use is real. Measuring how this valuable resource is captured and more productively used, especially when compared to peer institutions should help deflect the concerns that inevitably arise with print material is withdrawn.

Measures:

1. The size of the library's print collection that is housed in open stacks. This might be measured as the number of volumes or in square feet allocated to open storage. We would expect this number to decline so measuring it over time will be important.

2. How much space in the library is allocated for users. It would likely be useful to count seats and square feet as well as tracking collaboration spaces and seats for individual study. It might also be of value to track space provided for partners such as writing centers or digital scholarship labs.

3. The quantity and quality of the use made of the library space. Gate or seat counts and surveys of the library use.[9]

Goal 2*: Change collection strategy from just-in-case to just-in-time.* It has long been understood that many of the books purchased by academic libraries were never used.[10] This made sense in the past because books went out of print and interlibrary loan was slow. Today, neither of these things is true. With the use of print-on-demand technology, in most case books stay in print indefinitely and delivery times can be measured in hours not days or weeks. Interlibrary loan is also much faster than it was in the past. The purchase-on-demand model for ebooks has been commonly used by many libraries for some time. It can now be reasonably applied to print books. The growth of open access, both Green Open Access and Gold Open Access increasingly makes journal articles available outside of subscriptions.[11] Tools for discovering open access articles are in their infancy, but they have promise and will likely be brought to scale and integrated with library workflows soon.[12] Articles can also be purchased one at a time either from publishers or services such as the Copyright Clearing House's Get It Now service. These means that purchasing in anticipation of use is no longer required and in many cases a clear waste of money.

Measures:

1. The annual amount of money paid to Elsevier, Springer, and Wiley and other large commercial publishers. Unless libraries extract themselves from their arrangements with the large commercial publishers they will continue to be financially pressed. Making this number a top line measure of library performance gives it the visibility and will keep it a priority. For most libraries, the target should be to hold this number steady or to have it decline.

2. The amount of the collections budget used for purchase-on-demand rather than just-in-case acquisitions. This can be expressed as a percentage or a dollar amount. It probably makes sense to include ILL and document delivery cost as part of the collections budget when making these calculations.

***Goal 3**: Change collection focus from "outside in" to "inside out".*[13] This is the critical flip in strategy that academic libraries need to make. It is also where the money saved by advancing Goal 2 should be invested.

Measures:

1. The number of library staff that is allocated to "inside-out" activities, including scholarly communication, data management, repository management, digitization, etc. This might also be expressed as a percentage of all library staff or of staff involved in collections, including selection, acquisitions, cataloging, and circulation.

2. The portion of the collections budget, defined to include funds allocated to digital scholarship activities like Open Access Authors fund and to support community Open Access projects.

3. The amount of money invested in the acquisitions of special collections. This could be represented in dollars or as a percentage of the collections budget.

***Goal 4**: Support changes in the scholarly communication system that lead to more open resources.* If we hope to create a scholarly commons where large quantities of the scholarly and cultural content are openly available, institutions will need to do two things. First, they will need to support local collections of open content. Second, they will need to help fund network scale projects.

Measures:

1. Financial support for open access as a percentage of total collection expenditures. This would include funding for article processing fees, investments in open access publishing like Knowledge Unlatched, ArXiv, the AAU/ARL/AAUP Open Access Monograph Publishing Initiative, or HathiTrust.

2. Faculty engagement with Open Access. The might be measured as a percent of institutional scholarly output, beginning with articles, that are Green Open Access and Gold Open Access.[14] Alternatively, it could be the percentage of campus article output that is deposited in the campuses institutional repository.

3. The amount of open material hosted and preserved by the library. This could be measured either as the number of items and/or as the total size in bits of the content.

4. Funding for shared or community based network infrastructure. This could be expressed in dollars committed or as a percentage of the library's budget.

Looking at the Budget Differently

Many of the proposed measures are about how money is spent. On one hand, this reverts to inputs. However, they are different from traditional input measures that look at the absolute level of expenditure. Rather, these measures look at how the expenditures are

allocated. This is an important difference. I think this approach is justified because it makes explicit spending patterns that otherwise are not visible. By establishing targets for expenditures, it becomes clear how much money needs to be reallocated to services or resources and by implication what services and resources need to be reduced. If the targets are set for a three-year to five-year time line, even significant reallocations are possible.

Let's see how this might work. Imagine a mid-sized academic library with a budget that looks like the following:

Figure One: Sample Library Budget

	FTE	$	% of Compensation	% of Total Budget
Compensation				
Inside-Out	15	$975,000	20.0%	
Outside-in	45	$2,925,000	60.0%	
Other	15	$975,000	20.0%	
Total	75	$4,875,000	100.0%	52.7%
Collections			% of Collections	
Inside-Out				
Open Access Authors Funding		$20,000		
Open Access Projects		$75,000		
Special Collections		$50,000	1.4%	
Inside-Out Total		$145,000	4.1%	
Outside-In				
Large Commercial Publishers - Journals		$1,500,000	42.9%	
Other Publishers		$1,500,000	42.9%	
Total Just-in-Case		$3,000,000	85.8%	
Just-in-Time (ILL, document delivery, PDA)		$350,000	10.0%	
Outside-In Total		$3,350,000	85.8%	
Collections Total		$3,495,000	90.0%	37.8%
S&E, etc.				
Community Infrastructure		$75,000		0.8%
Other		$800,000		
S&E, etc. Total		$875,000		9.5%
Total Budget		$9,245,000		100.0%

The library would then establish specific targets, for example:

- Move from having 20% of staff engaged in Inside-Out to Out-Side-In activities to have 30% of staff engaged in these activities (Goal 3 – Measure 1) that would require a move of 7.5 FTE. In this example, we assume all staff cost $65,000 in compensation.
- Move from investing 4.1% of collection funding in Inside-Out collection to 10% (Goal 3 – Measure 2). This would mean an investment in this area of $349,500 or an increase of $204,500.

- Paying only 35% of the collections budget to large commercial publishers (Goal 2 – Measure 2). This would mean an expenditure of only $1,223,250 with these publishers or a reduction of $276,750.
- To move the percentage of the collections budget dedicated to Just-in-Case purchasing (Goal 2 – Measure 2) from 10% to 25%. This would mean $873,750 should be spend on just-in-time purchase and would require a reallocation of $523,250 to this part of the budget and a reduction in the just-in-case part.
- Move the investment in community infrastructure from 0.8% to 2.0% of the library's budget (Goal 4 – Measure 4). An increase of $109,900 would be required to do so.

The resulting budget would look as follows. The adjustments needed to meet the targets are shown in yellow.

Figure Two: Sample Library Budget Meeting Targets

	FTE	$	% of Compensation	% of Total Budget	Change from Original Budget	% Change from Original Budget
Compensation						
Inside-Out	22.5	$1,462,500	30.0%		$487,500	50.0%
Outside-in	37.5	$2,437,500	50.0%		-$487,500	-16.7%
Other	15	$975,000	20.0%		$0	0.0%
Total	75	$4,875,000	100.0%	52.7%	$0	0.0%
Collections			% of Collections			
Inside-Out						
Open Access Authors Funding		$50,000			$30,000	150.0%
Open Access Projects		$150,000			$75,000	100.0%
Special Collections		$149,500	4.3%		$99,500	199.0%
Inside-Out Total		$349,500	10.0%		$204,500	141.0%
Outside-In						
Large Commercial Publishers - Journals		$1,223,250	35.0%		-$276,750	-18.5%
Other Publishers		$1,048,500	30.0%		-$451,500	-30.1%
Total Just-in-Case		$2,271,750	65.0%		-$728,250	-24.3%
Just-in-Time (ILL, document delivery, PDA)		$873,750	25.0%		$523,750	149.6%
Outside-In Total		$3,145,500	65.0%		-$204,500	-6.1%
Collections Total		$3,495,000	75.0%	37.8%	$0	0.0%
S&E, etc.						
Community Infrastructure		$184,900		2.0%	$109,900	146.5%
Other		$690,100			-$109,900	-13.7%
S&E, etc. Total		$875,000		9.5%	$0	0.0%
Total Budget		$9,245,000		100.0%	$0	0.0%

The particular targets might be set through an internal library planning process, by reference to the practice of a group of peer libraries, or with reference to national standards. Regardless of how they are established, a commitment to explicit targets of this sort will require budget reallocations that will alter how the library does business and will force movement toward those stated priorities.

There is an interplay between the various targets and goals. Reducing funding to large commercial publishers makes it possible to increase funding for purchase-on-demand and Outside-In activities.

Conclusion

What I am really proposing is a set of measures that will indicate the speed at which a library is exiting the old print-based paradigm. Having explicit targets for these measures or ones like them is important because, as we noted at the outset, what we measure is what gets accomplished. Absent measures like these we may move in the directions we need to go, but it is unlikely that we will go as far or as fast as we should or could go.

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Published: November 2017

[1] See for example my take in David W. Lewis, *Reimagining the Academic Library* (Lanham, MD: Rowman & Littlefield Inc., 2016).; David W. Lewis, "A Strategy for Academic Libraries in the First Quarter of the 21st Century," *College & Research Libraries* 68, no. 5 (September 2007):418-434, doi:10.5860/crl.68.5.418, http://crl.acrl.org/index.php/crl/article/view/15889/17335.; and David W. Lewis, "From Stacks to the Web: The Transformation of Academic Library Collecting," *College & Research Libraries* 74, no. 2 (March 2013): 159-176, doi:10.5860/crl-309, http://crl.acrl.org/index.php/crl/article/view/16292/17738.

[2] ARL Library Investment Index, https://www.arlstatistics.org/analytics. ARL claims this index is not to rank the quality of libraries, rather simply their size, but it is clearly seen as a proxy for quality and is regularly used to establish a library's place in the pecking order.

[3] See for example the National Center for Educational Statistics Academic Library Program, https://nces.ed.gov/surveys/libraries/academic.asp or ACRL's Academic Library Statistics, http://www.ala.org/acrl/publications/trends.

[4] "Standards for Libraries in Higher Education," *Association of College and Research Libraries*, approved October 2011, http://www.ala.org/acrl/standards/standardslibraries.

[5] ACRL Value of Academic Libraries, http://www.acrl.ala.org/value/. The most recent report of the project is Karen Brown, *Academic Library Impact on Student Learning and Success: Findings from*

Assessment in Action Team Projects (Chicago, IL: Association of College and Research Libraries, April 2017), http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/value/findings_y3.pdf.

[6] Carl Straumsheim, "Beyond Counting Books," *Inside Higher Ed* (April 2017), https://www.insidehighered.com/news/2017/04/11/ithaka-sr-oclc-research-examine-how-universities-libraries-are-changing. See also: Roger C. Schonfeld and Constance Malps, "University Futures; Library Futures. OCLC Research and Ithaka S+R Join Forces on New Research Project," *Ithaka S+R* (blog), April 10, 2017, http://www.sr.ithaka.org/blog/university-futures-library-futures/ and "University Futures, Library Futures," last modified May 31, 2017, http://www.oclc.org/research/themes/systemwide-library/library-futures.html.

[7] Carl Straumsheim, "Beyond Counting Books," *Inside Higher Ed* (April 2017), https://www.insidehighered.com/news/2017/04/11/ithaka-sr-oclc-research-examine-how-universities-libraries-are-changing.

[8] Lorcan Dempsey, "A New Information Management Landscape: From Outside-In to Inside-Out," in *New Roles for the Road Ahead* (Chicago, IL: ACRL, 2015): 50-55.

[9] There has been some good work done in this area. See for example: Alison J. Head, *Planning and Designing Academic Library Learning Spaces: Expert Perspectives of Architects, Librarians, and Library Consultants* (University of Washington Information School, December 6, 2016), http://www.projectinfolit.org/uploads/2/7/5/4/27541717/pil_libspace_report_12_6_16.pdf.

[10] The University of Pittsburgh study demonstrated this conclusively. See: Allen Kent, *Use of Library Materials: The University of Pittsburgh Study* (New York: Marcel Dekker, 1979).

[11] Green Open Access also known as self-archiving refers to the practice of depositing articles in an either an institutional or disciplinary open access repository. Gold Open Access is the publication of an article a journal where the publication costs are covered in ways other than subscriptions and the articles are made available at no cost to all users.

[12] Open Access discovery tools include the Open Access Button (https://openaccessbutton.org) and Unpaywall (http://unpaywall.org)

[13] Lorcan Dempsey, "A New Information Management Landscape: From Outside-In to Inside-Out," in *New Roles for the Road Ahead* (Chicago, IL: ACRL, 2015), 50-55.

[14] See: Jere Odell, "Gold Open Access on the Rise: IUPUI Leads Indiana in OA Articles," November 10, 2016, http://ulib.iupui.edu/node/19768 and Jere Odell, "Gold Open Access on the Rise: IUPUI Leads Indiana in OA Articles," April 24, 2017, http://ulib.iupui.edu/digitalscholarship/blog/watching-open-access-grow-greener-iupui for potential methodologies.