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Bullied by Budgets, Pushed by Patrons, Driven by Demand: Libraries and Tantalizing Technologies

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Abstract:
Libraries are caught in the middle—between static or shrinking budgets on one hand and ever-expanding user needs on the other. How did we get here, and where do we go from here? This paper will offer two perspectives: Part I will present survey results about changing Library purchasing habits in light of changing formats, access, business models and user demands. Data from a previous survey on this topic will be compared and updated. Pricing trends and possible futures will be discussed. Part II will briefly trace the history of libraries' roles in scholarly communication and connecting learners with knowledge. From there, we show an example of phasing in a patron-driven and short-term loan e-book program, complete with incorporating these tools in library instruction, research, and portable device loadability for field work.

Part I: Libraries' Changing Buying Habits, 2011
By Narda Tafuri

In August 2011, a short survey consisting of 23 questions was posted over three email lists: ACQNET-L, ERIL-L, and COLLDV-L. A total of 129 individuals responded to the survey. The purpose of the survey was to uncover trends in purchasing and how the current economic climate had affected libraries' buying habits. A similar survey conducted in 2009 had yielded 144 responses. The results of that survey were presented at the 2009 Charleston Conference and also appeared in an article in the November 2009 issue of *Against the Grain*.

The majority of survey respondents (83.7% - 108 total) worked at academic libraries, while 5.4% (7 total) worked at public libraries and 10.9% (14 total) worked at special or other type of library. An additional respondent category, school library, yielded zero responses.

More than half (62% - 80 total) of the libraries responding had book budgets under $500,000. A total of 27.1% (35 total) of those responding had book budgets of $1 million or more to expend. The remaining respondents (10.9% - 14 total) had budgets of $500,000 to $999,999. This breakdown is very similar to the libraries that participated in the 2009 survey.

Respondents were asked the question: "Does your library currently purchase used or out-of-print books from the Internet for its collection?" Of the total number of respondents (128 responded—1 skipped this question) 85.9% (110 total) indicated that they did purchase out-of-print books. The majority of out-of-print purchases continued to be "Replacement copies of missing books" (81.7% - 98 total) with 56.7% (68 total) purchasing used or out-of-print (OP) books as "Regular purchases for our collection." When asked: "Do you foresee your library increasing purchases of books from used or out-of-print Internet book sites in order to "stretch" the Acquisitions book budget?" only 26 respondents (out of 128 total) answered "Yes."

The choices to the question: "Which used or out-of-print Internet book sites does your library use to purchase books?" included: Barnes & Noble, Addall.com/used, BookFinder.com along with the sites from the 2009 survey: Amazon Marketplace, ABE-books, Alibris, and Other. In response to "Other" respondents were again asked to name their top three sites. Responses varied, but Powells.com, Better World Books, Via Libri, Half.com were all mentioned more than once. Both Amazon Marketplace (82.1% - 101 total) and Alibris (75.6% - 93 total) were the most popular of the sites used for acquiring OP material; followed by ABE-books (56.1% - 69 total); BookFinder (25.2% - 31 total); Addall.com/used (18.7% - 23 total); Barnes & Noble (17.1% - 21 total); and Other (16.3% - 20 total). A total of 123 out of 129 respondents answered this question.

For the majority of those responding (76.5% - 98 total), vendors are still filling 51% to 100% of the orders placed for print books. However, this is down

a bit from the 2009 survey where 84% (121 total) indicated that this was the case. The remaining respondents (33.4% - 30 total) indicated that only 50% or less of all orders for print books are supplied by vendors.

Vendors continue to face stiff competition from Internet sales of print books as 51.2% (64 total out of 125) responded that 1%-10% of their library's book Acquisitions budget is used to purchase print books from the Internet; 78.4% (98 total) responded that they used up to 50% of their library's book budget in this manner; while 16% (20 total) indicated that they made 51%-100% of their print book purchases through the Internet. Of the 20 respondents indicating that over 50% of their print book purchases were done through the Internet, 75% (15 total) had book budgets of $199,999 or less; 15% (3 total) had book budgets of $1 million dollars or more.

E-books have started to gain in popularity and new collections and sources have seen marked growth. To see how this area has been impacting acquisitions budgets survey respondents were asked: "What percentage of your Acquisitions Book Budget goes towards purchasing e-books?" A total of 77 respondents (60.1%) indicated that 1% to 25% of their book budget was being used to purchase this type of material. Of those responding that e-books made up 1%-25% of their book budget, the majority of respondents (88.3% - 68 total) were from academic libraries, followed by special or other libraries (6.5% - 5 total) and public libraries (5.2% - 4 total). A total of 20 respondents (15.6%) indicated that 26% to 50% of their book budget went towards the purchase of e-books. Out of those responding in this manner, the majority (85% - 17 total) were from academic libraries. A total of 11 respondents (8.7%) indicated that more than 51% of their acquisitions book budget is being used to acquire e-books. Nine of those responding in this manner were at academic libraries.

Over 51.6% (66 out of 128 total) respondents indicated that their libraries were spending $20,000 per year or more on e-book purchases. Academic libraries made up 86.4% (57 total) of those spending $20,000 or more on e-books; followed by (7.6% - 5 total) public libraries; and special or other libraries (6% - 4 total). Academic libraries with budgets of

$200,000 or more (68.4% - 39 total) made up the majority spending at this level on e-books.

Only 12 respondents (9.4%) indicated that their library had a separate budget for e-book purchases. Very few respondents (6.3% - 8 total) indicated that their libraries were not purchasing e-books at this time. Of those libraries not purchasing e-books, only three were from academic libraries; one was from a public library; the remaining four responses came from special or other libraries.

Although libraries are spending large portions of their print acquisitions budgets to obtain e-books it is interesting to note that when respondents were asked: "Does your library direct patrons to free, full-text e-books from sources such as: Google Books, Internet Archive Project, Project Guttenburg, HathiTrust, etc. when available?" over 25% (26.4% - 39 total) out of 129 respondents indicated "No, we do not direct patrons to these resources"; 22.5% (29 total) indicated "Yes, we link patrons to these resources through records in our OPAC"; and 31.0% (40 total) indicated "Yes, we link patrons to these records through URLs on the library's website." Of those responding "Other" (20.2% - 26 total) many mentioned using discovery services to direct patrons to those types of resources.

Most respondents indicated that their libraries did not provide patrons with e-book readers. A total of 75% (96 total) responded "No" to the question: "Does your library loan e-book readers to patrons?" Of those that did offer e-book readers, iPads, Kindles, and Nooks topped the list.

Respondents were asked if their libraries would ever consider making public domain (PD) books available to patrons via print on demand (POD). Respondents indicated that their libraries were not interested in providing this service in the foreseeable future, as demonstrated by the high number of respondents (89.9 – 116 total) that answered "No" when asked about whether there were plans to offer such a service at their library. That question was followed by the question: "Would your library ever consider selling books via POD or using an Espresso Book Machine to raise revenues?" Very few (3.1% - 4 total) indicated that they were thinking about doing so in the near future; 35.7% (46 total) said that

they would consider doing so, but had no immediate plans; while the majority of respondents (61.2% - 79 total) stated "No" to this question.

Respondents were asked to choose between the following types of copies of a book to be purchased for their library's collection: a print-on-demand paperback copy of a book that is available, "in stock" on Amazon for $24; a used paperback copy of a book listed on Amazon Marketplace as available in "Very Good" condition, no marks, etc. for $10.00; a used cloth copy of a book listed on Alibris as available in "Fine, as New" condition for $15.00; a new paperback copy of a book that can be ordered through a book vendor with a 15% discount for $20.00; and an electronic edition of a book that can be accessed online by multiple simultaneous users for $30. The fewest number of respondents (2.3% - 3 total) out of a total of 128 responding to this question selected the POD book for $24. The largest number of respondents (42.2% - 54 total) chose the book available from a vendor with a 15% discount at a cost of $20.00. That choice was followed in popularity by: an e-book (32% - 41 total); a used cloth book in "Fine, as New" condition was the next choice (18.8% - 24 total); and a "Very Good" condition used paperback was selected by very few (4.7% - 6 total).

The top three factors in making these choices were identified by respondents as: accessibility (29.1% - 37 total); ease of purchase (25.2% - 32 total) and condition of the book (18.9% - 24).

Related to the rise of e-books is the increase in Patron Driven Acquisitions (PDA) programs at libraries. Survey respondents were asked: "Has your library considered implementing Patron Driven Acquisitions (PDA) for PRINT Books?" A total of 45.7% (59 total out of 129) respondents indicated "No," while 20.2% (26 total) indicated: "Yes, we have already implemented a PDA program," another 16.3% (21 total) indicated that their library had plans to implement such a program within up to 2 years. However, a large number indicated "Other" (17.8% - 23 total) with over half commenting that this idea was currently "under investigation."

When asked: "Has your library considered implementing Patron Driven Acquisitions (PDA) for e-books?" a total of 38.9% (49 total out of 126) re-

spondents indicated "No." This was slightly less than those not participating in print PDA programs; however the number of respondents choosing "Yes, we already implemented a PDA program for e-books was slightly higher at 25.4% (32 total) than those who had implemented a print PDA program. Those indicating that their libraries' had plans to implement an e-book PDA program within up to 2 years (35.6% - 45 total) was substantially higher compared to those indicating their library was planning to implement a print PDA program within the same time period. Respondents were not asked if they had both a print and an e-book PDA program. Nor were they asked if their library had a Patron Driven Access program that provided full-text access to e-books but did not purchase them.

As a follow-up question, respondents were asked "Have you seen a decrease in interlibrary loan since implementing a PDA program at your library?" A total of 29% responding (36 total) indicated that ILL has not decreased. However, it is interesting to note that 7.3% (9 total) indicated that ILL had decreased by more than 10% since PDA was implemented and 1.6% (2 total) indicated that ILL had decreased by more than 25%. The two libraries represented by such a large decrease in ILL were both academic libraries with book budgets exceeding $2 million. We might assume that these two libraries are now purchasing what they previously had borrowed.

Given the hard economic times some libraries have faced in recent years it is interesting that there wasn't an increase in the number of libraries using the out-of-print/used book market to "stretch" their budgets. A significant portion of the libraries responding to the survey didn't even "tap" into free digital book sites to help expand or beef up collections without a big outlay of money. Respondents were not asked if they had recently experienced cuts in staff through layoffs or attrition which would account for the lack of development in both of these areas. At the same time, libraries continued to shift more of their purchasing to Internet sales.

Even with decreasing book budgets, it is apparent from the survey responses that Libraries will continue to put increased resources into developing digital collections.

Part II: Libraries and Technologies: Changes and Solutions, 2011
By Antje Mays, 2011

CATALYSTS OF CHANGES AND LIBRARY CHALLENGES: A MACRO VIEW

Budgets, Space, and Disruptive Technologies

In most states, public universities have seen their state-appropriated share of operating budgets dwindle considerably and precipitously. Public higher education, long afflicted with growing societal fatigue of the notion of shared commitment to education, has felt this disaffection in form of continually declining funding levels. A typical drop in the past twenty years from about 50% to 9% of public universities' operating budgets leaves institutions with gap-filling challenges that are inevitably felt in libraries as well. [1] [2] At the same time, waves of new technologies add entirely new categories for costs of doing business and delivering knowledge, all of which must be met with declining dollars. Private universities' funding fortunes rise and fall on the level of sustained alumni support, investment returns on endowment funds, students' ability to pay tuition, and parents' continued financial good fortune enabling private-tuition payment. While endowments may present private institutions with a source of fiscal stability during eras of healthy financial markets, the principal and return on these funds are vulnerable to market declines—closer to home, reductions in investment-generated operating income for the university spell budget reductions for libraries; significant losses can trigger dangerous shortfalls. When economic downturns spell investment losses for families, students drop out as reduced family budgets are no longer able to bear tuition costs, thus further reducing college revenues. [3] [4] When faced with reductions in federal financial aid due to fiscal duress or disagreement about the role of government in Washington, both public and private universities lose yet more students who cannot afford tuition unassisted, with yet another set of negative repercussions for college budgets [5]—repercussions destined to be felt in libraries.

In particular since the onset of the severe recession following the 2008 financial crash, some states' public universities have seen their state allocations drop by more than half since the downturn, with no prospects of funding reinstatement to pre-recession levels. Consequently, libraries too have felt the fiscal storms buffeting their parent institutions. Whether by way of public sector starvation or private colleges' endowment losses, libraries have at best faced static budgets and at worst absorbed budget cuts so severe that layoffs and even facility closures resulted. [6] [7]

In addition to budgetary limitations, library buildings face increasingly acute space constraints as growing physical materials reach the limit of space available for housing them. Fiscal trajectories render widespread building expansions unlikely, thus accelerating the natural limit of the physical collection spaces. As academic programs increase in scope and complexity, libraries need online alternatives to the physically impossible growth in print collections that would be necessary to fully support these growing programs. In the past four decades, computing and information technologies have developed and increased at exponential rates. Technology has become ubiquitous in all business functions and become crucial to educational functions ranging from online library resources to online file sharing in distance education. A major effect on libraries is the entirely new expense category posed by these technologies on university budgets, leaving less of university budgets for library resources and upgrades. Both academic and public libraries face allocating greater shares of their own budgets to technological resources and infrastructures, leaving less for other areas. In light of online materials' proliferations, libraries face increasing competitive pressures from online materials. As pressures mount to cut institutional costs, libraries are tasked with differentiating themselves from the cost-cutters' oft-cited "free" resources available on the Internet. [8] [9]

Patrons: the Academic Community
Students
While university study may conjure the image of long, uninterrupted time blissfully browsing the stacks in the course of research without distractions, students' life patterns have changed considerably since the time when college was students' primary full-time activity. More students balance work and, in many cases, families and other demands of adult responsibilities. Even many students who attend college full-time take course overloads in order to benefit from the per-semester tuition

caps in the face of rising tuition. Students' schedules are full. Their scattered schedules fragment study time, making it impossible for them to come often to the library for long blocks of time. Although students' information-gathering visits to the library are shorter and fewer, the library becomes a hub for students' specific times of group study as they collaborate on course projects. As a result, students need solutions for off-site flexible access to scholarly publications, as well as technologically supportive environments for their group collaborations.[10] [11] [12]

Faculty
New professors, coming on board from more technologically advanced campuses with full complements of online scholarly resources, expect the same amenities from their new institutions. Libraries then face the challenge of bridging the gap on fixed or shrinking budgets, struggling with having to choose between introducing new solutions and keeping existing resources. Similarly to students, faculty are pulled in many directions by competing demands and busy work schedules. Professors face heavy course loads paired with college governance and requirements for publications and grants. Adjunct faculty are not on campus enough for long blocks of library time, thus reducing their familiarity with existing resources to incorporate in course-related reading lists. They too need flexible solutions for accessing scholarly materials.[13] [14] [15]

User Demand: Changing Lives, Shifting Needs
As students and faculty spend less physical time in the library, their need for knowledge resources hardly wanes. Library users need and want seamless online access to research materials, anytime from anywhere. Students enrolled in online courses never or infrequently come to campus. They need access to the same quality of materials as those traditional students who can access the library's physical collections.[16] Based on this author's observations, students studying abroad need access to their library's materials from their host countries, especially if the home university's library collections are more robust than those of the host institution. Students and faculty in disciplines requiring extensive field work in locations where internet or satellite access is unavailable need portable solutions for their scholarly resource needs.

TECHNOLOGIES: PROMISE AND POTENTIAL SOLUTIONS

Tantalizing Technologies
As technologies can disrupt, these tools can also assist and enhance. As technologies continually evolve and ease the process of information-sharing and online collaboration, online dissemination of scholarly communications has grown exponentially. The following is the author's rundown of some new technologies and their observed and potential benefits.

Patron-Driven Acquisitions: The Future of Research Support? Set up with a profile similar to those curriculum articulations found in approval-plan profiles, patron-driven acquisitions (also known as demand-driven acquisitions [DDA]) help libraries acquire e-books based on actual user need. Working with their book vendor, libraries profile the types of books desired for potential e-book purchases. For libraries preferring subject-specific fund codes, a table mapping call-number ranges to corresponding fund codes can be specified in as much detail as the library needs for its data analysis and reporting. Once the DDA process has been established, MARC records for e-books are loaded in the library catalog at regular intervals, based on MARC record specifications worked out between the library and book dealer. Invoice records at later point of purchase are also configured according to library and system needs.

MARC-tag field mapping in data transfer, customization options are determined by library preferences, the integrated library system, and bibliographic utility considerations. Libraries using a bibliographic utility other than OCLC need to consider special circumstances such as control numbers for each record, whether or how e-book records are to be shared in the bibliographic utility's database of member libraries' records, and any other aspects unique to the utility. Load tables for MARC records reflect these considerations, field mapping, and customization options.

To define the DDA titles, the book vendor passes all new e-book titles through the profile and sends the list of matching to the e-book aggregator at the predetermined interval. The aggregator then provides the records which are customized by the book

vendor according to the library's specifications, then loaded into the online catalog.

As the process unfolds, the collection of profile-matching DDA e-books available for choice grows in the online catalog. The DDA-matching e-books also become available in the e-book aggregator's database. If the library also subscribes to a database, the e-book aggregator augments the subscription database with the DDA titles. As e-book readers cross the threshold for a short-term loan or perpetual-ownership purchase, the action is triggered in the aggregator's system, a trigger report sent to the library's designated contact, and an invoice is generated by the book vendor. For purchases, the MARC records with invoice data become available for system load, populating the acquisitions system with order records as specified in the fund-code mapping. While increasing the pool of e-books accessible to users, the aggregator's portal provides title use statistics for both segments of the database, allowing the library to determine the relative use of the subscription-supplied e-books and DDA e-books as well as many other customizable measurables.

DDA titles can be accessed from any internet-enabled device, be it a terminal inside the library, a laptop off campus, a study-abroad host university computer, or a smart phone. This access route increases students' avenues for accomplishing their work. It also provides access to scholarly e-books to distance students who cannot come to the library building for print materials. For traveling researchers, these technologies enable library users to access more scholarly resources remotely. If and when these e-books can be loaded onto mobile devices, field workers in remote locations cut off from telecommunications will be able to benefit even more from this form of book.

Is this the future of delivering books to scholars? While still new, this vehicle warrants continued exploration and evaluation.

Publisher Databases: Field Worker's Panacea?
Many publisher packages' file formats for articles and e-books are in PDF which can be loaded onto any device with a large enough media card. While conveniently accessible through any internet-

enabled device, the downloadable PDF files offer a portable solution for researchers traveling to field-work in remote locations where there is no tele-communication link to the outside world.

E-readers: Portability - E-readers afford the flexibility of carrying needed titles to any location with or without internet or satellite communication. This device lends itself to field workers in remote locations who must travel light while also having access to their scholarly materials loaded on their e-readers.

Mobile Devices: Portal to Knowledge - With a Caveat: Smart phones' growing sophistication increases the range of materials students and researchers can access from anywhere. While the range of access increases, many e-resources are not yet universally downloadable, thus limiting the utility of mobile devices in remotely located fieldwork.

Playaways: This dedicated audio player houses one title per device and comes pre-loaded with an individual book's audio version. As its contents cannot be augmented, the Playaway is a thought-provoking technological development but unlikely to support research due to its fixed speakers seeking to improve their English: Listening to a Playaway audio-book in tandem with reading the same book in printed form helps students become more familiar with English pronunciation. The simultaneous written and spoken exposure thus strengthens students' pronunciation, vocabulary, speaking skills, and English language comprehension.

LIBRARY IMPLICATIONS: FUTURE DIRECTIONS
Heraclitus, known for his succinct observation that the only constant is change, might be amazed at the societal and technological changes since Classical times. But I venture to say that he would not be surprised at the enduring role of knowledge institutions and their savvy in adopting the tools of their time in aiding scholarship and transmission of knowledge. As technological and societal changes continue to present libraries with challenges, user needs for scholarship and meaningfully organized learning resources endure. As technologies evolve and the needs of users change, connecting learners with knowledge remains at the core of libraries' role—despite evolving tools and practices.[17]

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