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Biz of Acq — An Environmental Analysis Corroborating PDA and the Winthrop Example

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Continual proliferation of e-publishing platforms, evolving business models, growing sophistication in online data sharing, and the rise of social media — especially in the face of continued economic anemia — place libraries in an uncertain environment. Fiscal malaise has spurred library cuts; even some in the library world wonder where libraries fit in the information-and-learning ecosystem. Literature abounds on concerns over obsolescence. On the other end of the spectrum, research has shown that libraries' sense-making and information-harnessing roles continue to have staying power and contribute to success among students and faculty.[1] As information continues to proliferate and dissemination technologies spawn new business models, researchers and students continue to benefit from access to meaningful information, even as libraries' workflows and operations undergo subtle and sometimes dramatic changes.[2]

While changes may disrupt and disorient, changes can also spur soul-searching as libraries apply the core role of connecting learners with knowledge into the evolving array of information forms. As external challenges abound, learning continues. Library patrons' changing lives alter the specifics of their needs, but their core need for information to support learning remains.

This article briefly outlines some changes to libraries driven by economic, spatial, and technological developments, as well as changing patrons' lives and evolving needs that give rise to the viability of patron-driven acquisitions as a solution. The article will also share an example of implementing patron-driven acquisitions and how the data are being used to inform additional ways to support teaching on a college campus.

Budgets, Space Constraints, and Disruptive Technologies

In most states, public universities have seen large declines in their state-appropriated share of operating budgets. Especially since the 2008 financial crash and its economic aftermath, society has become increasingly disaffected with the notion of shared commitment to education.[3, 4] Private universities are vulnerable to the repercussions of reduced operating income from declining endowment investment returns, financial turmoil in students' and parents' lives, as well as alumni's and other donors' reduced giving capacity.[5] 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.[6] 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. A major effect on libraries is the entirely new expense category posed by these technologies on university budgets, leaving less 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.[7, 8] While the most widely observed symptom is the cost element, these changes bring new task mixes which in turn bring new workflow considerations.

Patrons: the Academic Community

Students

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 during specific times of group study as they collaborate on course projects. And although distance students may never come to the physical library at all, they rely heavily on remote access to the library's scholarly resources. As a result, students need solutions for off-site flexible access to scholarly publications, as well as technologically supportive environments for their group collaborations.[9, 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] Additionally, traditional 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.

PDA to the Rescue

Not all technologies are created equal, and it is here that the library's context remains the most important driver of deciding which technologies to adopt. While some may lend themselves to experimentation, scaling them up for widespread use may not turn out practical or meaningful for the library's user environment. In academic libraries, the most important mission is connecting learners with knowledge while supporting research and scholarship in the best possible ways within the organization's resources. Thus, the best technologies are those which broaden access to more knowledge resources.

While scholarly eBook databases have enjoyed considerable repute in supporting learning — especially for distance education and providing additional materials for working adults whose schedules do not permit long blocks of in-house library research — a new business model has emerged allowing librar-

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ies to choose eBooks in more needs-tailored ways. This **patron-driven acquisitions model** (PDA), also known as demand-driven acquisitions (DDA), allows libraries to offer patrons eBooks based on criteria designed around the library's needs for subject coverage and readership levels. **How does it work?** In a nutshell, as content matches library criteria, records for eBooks are loaded in the library catalog. These "discovery records" are found in the course of naturally occurring research. As users' viewing crosses a threshold of time or page numbers, an eBook purchase is generated for that title. When an eBook is purchased, the MARC record with invoice data is loaded into the library system, designed to overlay the earlier discovery record.

Patron-Driven Acquisitions: How We Did It

Before launching into this business model, we subscribed to a scholarly eBook collection in order to ascertain usage patterns and functionality. Then we launched into setting up our patron-driven acquisitions. When our approval plan book vendor adopted patron-driven acquisitions, we replicated and adapted our existing print profile to the eBook pool we envisioned for our patrons. It took us about five months from laying the groundwork to seeing the first naturally occurring use of an actual eBook from the patron-driven acquisitions pool.

Parties and Goals: The following parties were involved at various stages of the planning and implementation: Library acquisitions, serials, cataloging, and systems, the book vendor, eBook aggregator, and the library system vendor. Factors of importance for us include workflow, quality of records, field mapping for MARC tags and fund codes, time horizons and mechanisms for removing never-viewed discovery records, software considerations, planning for technology quirks along the way, and analyzing usage data to inform the library's curricular support activities. See Figure 1.

Records - Discovery records and MARC records with invoice data: First, we pondered our goals for this patron-driven acquisitions project and planned implementation steps around workflow and system parameters. Database quality is important to us — the extensiveness of the resources' records directly impacts the items' findability. Thus, we ascribed importance to the descriptive extensiveness of the discovery records and any MARC records with invoice for eBooks ultimately purchased. We also established a designated email address for the three types of patron-driven-activity notifications: notice of activated short-term loan, periodic cumulative patron-driven acquisition activity reports, and vendor notices of purchases soon to be invoiced. The library parties worked closely with the book vendor's technical support for MARC record specifications. Library-specific details include the message displayed to patrons prompting them to view the eBook, link configuration, location codes, match points for records overlay, as well as common data elements designed to help us identify old discovery records for database cleanup.

Profiling — Acquisitions: After choosing one eBook aggregator to start with, we began working with our book vendor to profile our needs. Using the print profile as a basis, Acquisitions worked with the vendor for initial coding for the eBook profile: As our fund codes are broken out both by format and by subject, a spreadsheet was created mapping subject-specific classification ranges with their corresponding eBook fund codes. Although our library uses **Library of Congress (LC)** classification, many medicinal aspects of Human Nutrition are more closely reflected by **National Library of Medicine (NLM)** classification, which prompted us to add **NLM** ranges to the Human Nutrition portions of the fund-code-to-classification mapping. The subject-to-fund-code mapping drives the fund code on the invoice data to be loaded in the system after a given eBook is purchased.

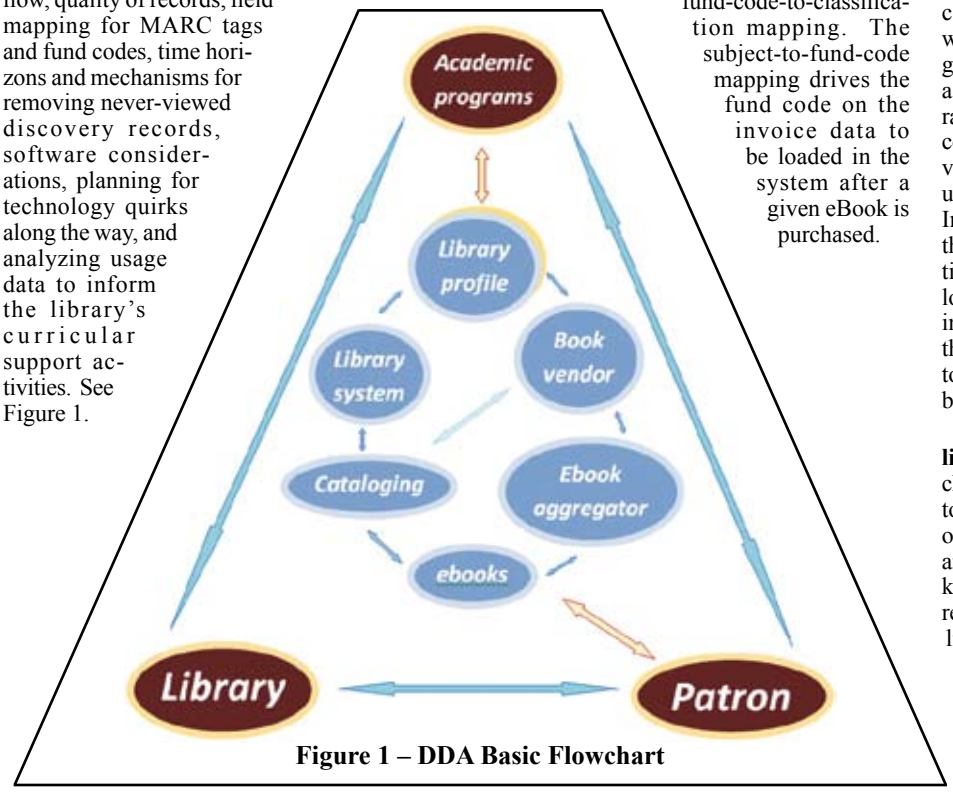


Figure 1 – DDA Basic Flowchart

Load Profile: Based on the needed parameters for our discovery records and MARC records with invoice, Systems (in concert with Serials and Cataloging) created a load table for the discovery records, as earlier-established load tables were tied to serials loads and did not quite meet the needs for this eBook project. A system add-on module enhances the efficiency and accuracy of loading the MARC records with invoice data.

Technical details depend in large part on the library's system and how its software and database structure interrelate. Other important factors include the book vendor's and eBook aggregators' own technical details. Even libraries with the same system may be operating on different releases and have different arrays of software modules; thus prescribing database-and-records-coding specifics is not universally helpful to all libraries. It is best for each library to confer internally and with external partners to devise its own most beneficial configurations.

What constitutes a short-term loan? To alleviate libraries' concerns regarding online views' rapid erosion of materials budgets, the short-term loan is not the instantaneous result of simply clicking into the eBook from a library's discovery record. Rather, a threshold must be crossed before the viewing becomes an actual short-term loan with financial implications. In our case, the threshold is either ten minutes in the book or ten pages viewed in one sitting. The proportions of views vs. short-term loans are discussed again later in this article's "findings" section.

From online view to short-term loan to eBook purchase: Depending on your library's combination of book vendor, eBook aggregator, and range of academic programs to support, the options for short-term borrowing and perpetual ownership purchasing can vary considerably. For our particular situation, we opted for three short-term loans before a given book is automatically purchased. We also opted for the 24-hour short-term loan rather than the 7-day short-term loan option in consideration of patron needs: Any title being viewed is inaccessible to others — subsequent users wanting to access the title are locked out. In large classes with widespread interest in the same eBook in the patron-driven acquisition pool, a 7-day lockout is too long to give locked-out students a chance to use the book in time for their coursework deadlines. We therefore opted for the 24-hour loan in order to give more students the chance to view the book in a timely manner.

Purchase: single-user or multi-user license? In tandem with moving into a purchase after three short-term loans, we also had to decide between single-user and multi-user options. Our choice between single-user and multi-user license was governed by our knowledge of the university's programs and related study and research practices. For our library, the large numbers of students in several of our reading-intensive programs made the multi-user license the more student-friendly purchase option. The availability of multi-user perpetual-ownership licenses is decided

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by publishers. While many books are available with multi-user licenses, others are not. Thus, we coded the multi-user license as our first preference and the single-user license as the second choice where the multi-user option is not available.

Payments and Workflows

Testing: Once naturally-occurring short-term loans began, we selected four titles representing reading-intensive areas with large student populations from the eBook aggregator's page. This page shows recently short-term-loaned titles using the "mediate purchase" option where acquisitions can activate the selected perpetual ownership license and send the title data to the book vendor for invoicing. This mediation allows for manual bypass of waiting for two more short-term loans before automatic purchase of a given title. We then walked these four titles through the process of automatically generated MARC records with invoice (and subsequently loading them from the vendor's designated file directory). The small scale allowed us to identify missing data, necessary software module tweaking, and test the overlay mechanism. Using four titles rather than one allowed us to test for consistency among observations of individual records' successes and quirks.

Importing activity data with documentation in mind: Depending on your library's external and campus reporting needs, your degree of need of granularity for tracking payments may vary. We wanted to track the scope of use by program areas and integrate financial activity with the existing data for other library materials. To enable this degree of data integration, we opted to tie all our payments to individual fund codes. Order records with short-term loan payments are manually created and attached to the discovery records, tied to a subject-specific short-term-loan fund-code which can later be retrieved for statistical and title-by-title analysis. Order records with purchase-generated invoice data are designed to come with the MARC-with-invoice record which overlays the discovery record. Purchase payments are tied to a subject-specific eBook purchase fund code. This eBook purchase fund code is derived by the invoicing book vendor from the library's classification-to-fund-code map. The overlay mechanism is designed to preserve the earlier-added order record pertaining to the the short-term loan payments because those payments are posted to the short-term loan fund code. This distinction allows for statistical analysis for a variety of reporting requirements. The availability of such detailed payment information in the library system means that these data can be analyzed using the library system's built-in tools, ultimately maximizing the efficiency of financial reporting and analysis. As with any new project, quirks can occur. Invoice data may be incomplete, software glitches may prevent some data from mapping correctly, and load tables may need to be refined. The slow buildup of patron-usage momentum provides time for acquisitions to identify missing data pieces or any unanticipated workflow needs. The start-up period will see much collaboration between the library's acquisitions and systems areas: Systems is a crucial liaison with the eBook aggregator's technical support, the book vendor's technical services, the library system vendor, and acquisitions' workflow and data considerations. The relatively slow start-up time allows for testing and working out the glitches before the momentum escalates.

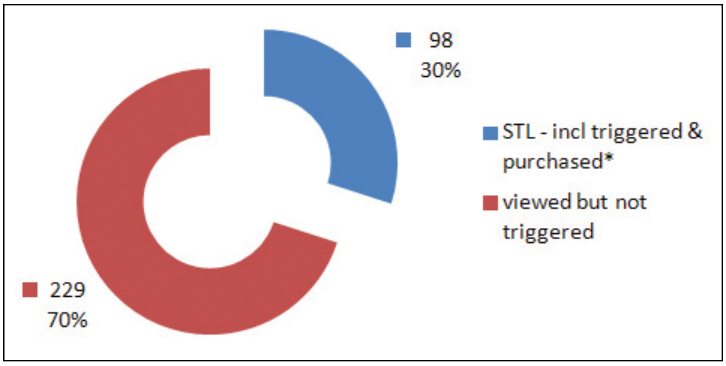


Figure 2 – Triggered / Non-triggered

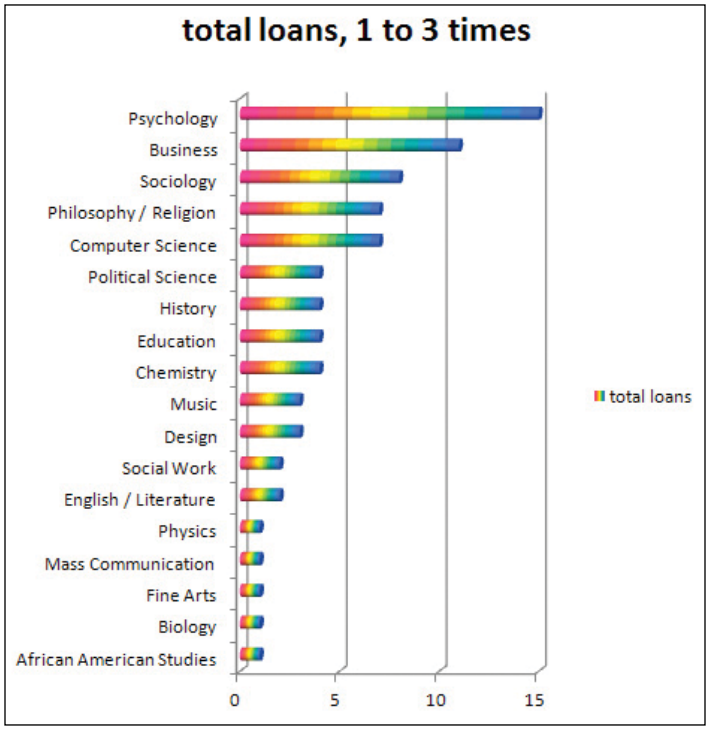


Figure 3 – Total STLs by Subject

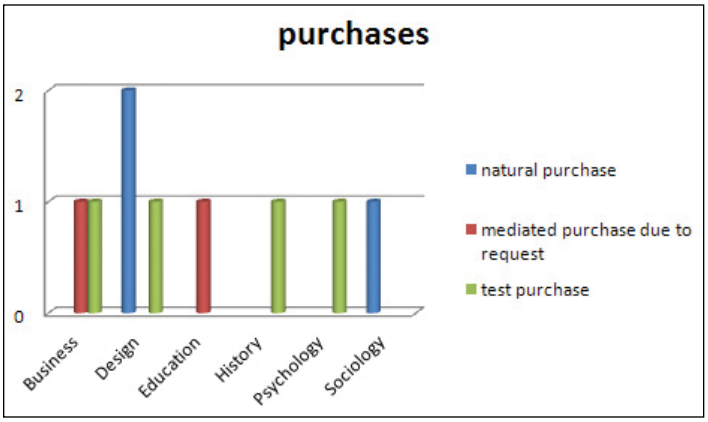


Figure 4 – Purchases

eBook aggregator tools: Our eBook aggregator provides title-by-title activity analysis. The analysis shows titles short-term-loaned, purchases and type of license, as well as titles which were viewed without crossing the threshold into short-term-loan use.

Findings from pilot period: Our patron-driven acquisitions program has been active since mid-October 2011. Data generated from activity between October 10, 2011 and February 5, 2011 revealed that 229 titles had been viewed without crossing the short-term loan (STL) threshold, while 98 triggers included single & multiple loans and a few purchases. See Figure 2.

Loan activity was highest for Psychology, followed by Business. This breakout corresponds to our academic programs' size and complexity. See Figure 3.

Purchases began naturally occurring January 20, 2012. We plan to review the data again after this program has run for a full academic year. The nine purchases so far are broken out as follows: See Figure 4.

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Non-triggered uses: 229 eBooks were viewed but their use did not cross the short-term loan threshold. The activity is broken out as follows among program areas: See Figure 5.

So far, print books have not seen a decline. Since our pilot has only been fully active for four months, not enough time has elapsed for changes. Future print book purchases and eBook activity, as well as causal connections to changes remain for future development and observation.

Debriefing: What Does It All Mean?

eBooks are a viable supplement to library collections, especially for supporting distance students, non-traditional students with adult responsibilities and full-time work, as well as traditional students with course overloads and paid work scheduled between classes. Multi-user-licensed books can be viewed by several students simultaneously, helping busy learners work around course overloads and other heavy scheduling on their way to timely coursework completion. Depending on the eBook aggregator, eBooks can also be downloaded to a variety of mobile devices — an added boon for researchers working in remote locations lacking internet access to the library's eBook collections.

eBooks, while convenient for many theoretically based and reading-intensive disciplines, do not lend themselves to fields where the book serves as a reference guide alongside the actual work. Two examples include studio arts where students refer to the open books next to their ongoing hands-on art work and bird watching where students refer to field guides carried along for the observations in nature. With the proliferation of information tools, it is more important than ever for libraries to collaborate closely with teaching faculty and know their academic programs with their types of coursework and research patterns.

As higher education continues to struggle with both costs and course-delivery methods in a changing society, libraries have an enduring lead role in harnessing knowledge resources in innovative ways that benefit students and their evolving needs.

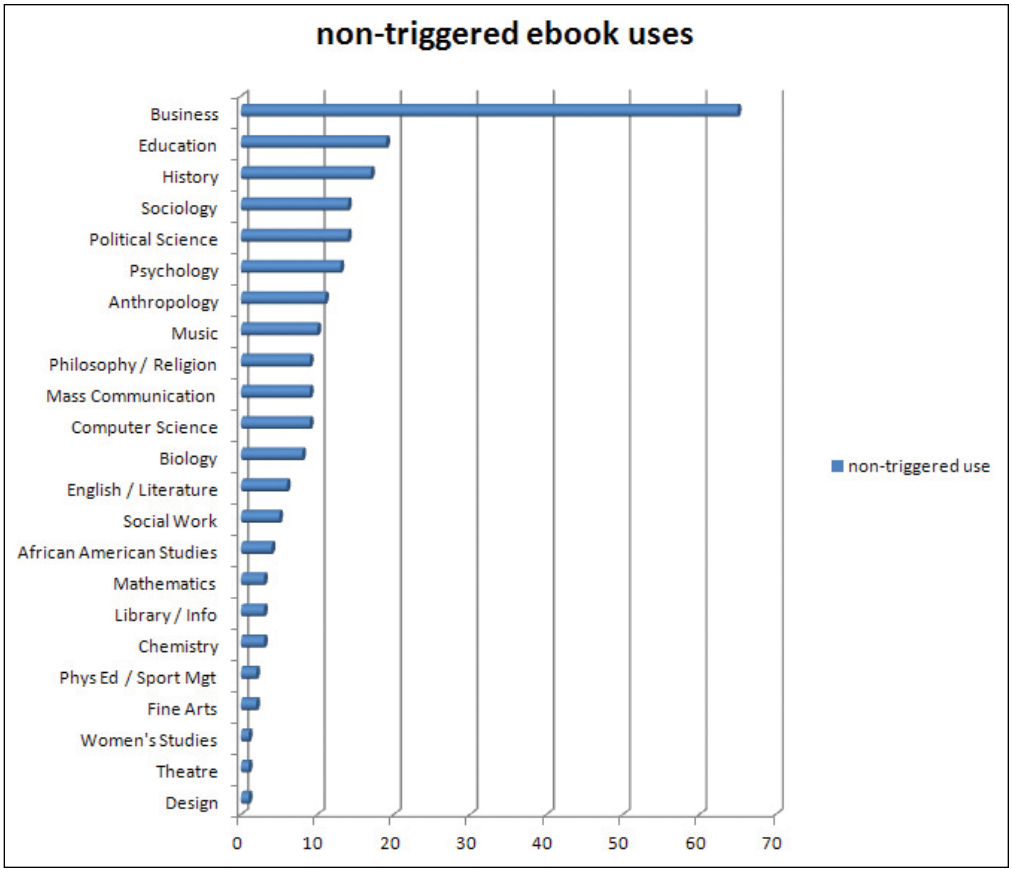


Figure 5 – Non-triggered eBook Uses

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