Patron-Driven Acquisition and the Educational Mission of the Academic Library

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Patron-driven acquisition (PDA), also known as demand-driven acquisition, patron-initiated purchasing, or books on demand, allows patrons to select and purchase books for the library collection without staff mediation or oversight. This essay presents the argument that PDA programs are unlikely to improve the quality of academic library collections. In particular, they risk failing to distinguish between students' immediate desires and their long-term educational needs, making poor use of librarians' knowledge and expertise, failing to represent the full range of library stakeholders, and producing collections that are biased or poorly balanced. Although PDA can lead to efficiencies in information delivery, those efficiencies do not necessarily support the broader educational goals of the academic library.

Librarians are ultimately responsible for book selection in most academic libraries. Even when faculty selectors help build the collection, librarians regulate the process and ensure that the selected titles meet the broader needs of the library and the university.[1] Historically, however, patrons other than faculty have had only an indirect or limited role in book selection. For instance, students might serve on the library committee or occasionally request new titles of particular importance.

Patron-driven acquisition (PDA), also known as demand-driven acquisition, patron-initiated purchasing, or books on demand, is an attempt to give students a more prominent role. In most PDA programs, the titles selected by patrons are purchased in print or digital format without further intermediation. These programs allow patrons, rather than librarians or faculty selectors, to determine which titles are added to the collection.

In many cases, however, PDA programs fail to support the broader educational mission of the university.[2] That is, they emphasize the immediate delivery of information rather than the development of collections that meet the long-term needs of the institution. This essay puts forth the argument that PDA is likely to diminish collection quality unless librarians implement safeguards to maintain their central role in book selection. Specifically, the essay

- presents an overview of the PDA programs that have been described in the literature;

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- sets forth two core principles that can help guide the evaluation of PDA programs and other collection development initiatives; and
- discusses several problems that may result from the widespread adoption of PDA.

The available evidence supports the idea that librarians have an important and necessary role as mediators. They are uniquely qualified to apply both professional and subject expertise, to represent the full range of library stakeholders, and to maintain balance within the collection. Although readers may not agree with some of the assertions presented here, one goal of this essay is to encourage a broader discussion of PDA and the educational mission of the academic library.

Overview of Patron-Driven Acquisition

The professional literature presents complete descriptions of thirteen PDA programs at eleven universities:

- Ohio State University[3]
- Purdue University[4]
- Southern Illinois University[5]
- University of Denver[6]
- University of Florida[7]
- University of Iowa[8]
- University of Mississippi[9]
- University of Nebraska[10]
- University of Texas[11]
- University of Vermont[12]
- University of York.[13]

Other libraries have implemented PDA, but this list includes all the programs established since 2000 that have been described in detail. (Except as noted, information on particular PDA programs was found in the studies referenced above.) The thirteen programs were identified through searches of *Library and Information Science Abstracts*; *Library Literature and Information Science*; and *Library, Information Science and Technology Abstracts*. Although no attempt was made to verify or update the information reported in the literature, all but one of the relevant studies were published in 2010 or 2011.

The earliest print PDA programs focused on three objectives: ensuring that the book selection process was responsive to patrons' requests, providing permanent access to content that would otherwise be available for only a limited time—through interlibrary loan (ILL), for example—and saving money by purchasing specialized titles only in response to immediate demand. NetLibrary's introduction of a PDA option for e-books in 1998 led to a fourth objective: taking full advantage of e-book delivery systems that allow for immediate access to content.[14]

PDA was initially developed as an offshoot of ILL. The program at Bucknell University, implemented in 1990, was one of the first to use patrons' ILL requests to guide collection development in a systematic way.[15] Items requested through ILL were purchased rather than borrowed if they met preestablished criteria and were judged by a librarian to be appropriate for the collection. More recently, several academic libraries have adopted PDA programs that are *not* tied to ILL requests. In this new model, patrons select titles that have been loaded into the online public access catalog (OPAC) or included in a vendor's database. If the selected title is an e-book, it is delivered immediately; if it is a print book, the selection triggers a rush-order purchase.

Consequently, one of the first decisions in planning a PDA program is whether it will be based on ILL requests (the conversion of ILL requests to purchases) or on the direct selection of titles by patrons. Since 2000, at least five programs of the first type (table 1) and eight of the second type (table 2) have been described in the literature.

As the tables show, the various PDA programs differ in a number of respects. The most important differences can be represented by a set of seven questions that must be addressed when planning a PDA program.

What Formats and Delivery Mechanisms Will Be Used?

This question deals with the choice of format—print, e-book, or both—and the selection of a delivery mechanism. For e-books, the delivery mechanism is determined by the format. For print books, the delivery mechanism can be the standard acquisition procedure, the standard rush-order procedure, or a process that ensures even quicker receipt of the books ordered through PDA. For example, Purdue University uses online booksellers for all PDA titles to ensure quick fulfillment.

Of the PDA programs that convert ILL requests to purchases, most are associated with print rather than digital format. That is, four of the five PDA programs shown in table 1 are print-only. Only one, at the University of Mississippi, allows patrons to select either print or e-book format.

In contrast, most of the PDA programs not linked to ILL are associated with digital format rather than print. Of the eight programs shown in table 2, six provide e-books only. The University of Vermont program is print-only. Patrons at the University of Denver may select either print or e-book format.

Which Vendors Will Be Used?

For print PDA programs, libraries can choose between their regular book vendors and those that offer especially quick

Table 1. PDA Programs Linked to Interlibrary Loan Requests

University	Year Started	Vendor	Pct. Faculty & Staff*	Pct. Grad. Students*	Pct. Undergrads*	Titles Purchased Annually**	Price per Title
Ohio State University	2008	—	28	47	25	320	$122
Purdue University	2000	multiple	31	65	4	957	—
University of Florida	2006	Alibris	—	—	—	329	$70
University of Mississippi	2009	YBP	52	36	12	640	$53
University of Nebraska	2003	—	35	55	10	211	$58

* Percentage of PDA requests placed by each group of patrons.

** For programs with less than one year's data, this value is an estimate.

Table 2. PDA Programs *Not* Linked to Interlibrary Loan Requests

University	Year Started	Vendor	Titles Made Available	Activity That Triggers a Purchase	Titles Purchased Annually*	Price per Title
Ohio State University	2009	ebrary	16,000	See note**	4,439	$96
Southern Illinois University	2008	Coutts	8,453	3 views	313	$115
University of Denver	2010	YBP	23,000	4 views of 5+ min.	—	—
University of Florida	2009	Coutts	5,000	2 views	386	$107
University of Iowa	2009	ebrary	13,000	See note***	863	$103
University of Texas	2007	EBL	85,000	4 views	—	—
University of Vermont	2007	YBP	1,502	Any request	590	$64
University of York	2009	Springer	3,000	2 views	433	£53

* For programs with less than one year's data, this value is an estimate.

** Ten instances of printing a page or viewing a page not previously viewed.

*** Any printing, any copying, any viewing of 10 or more pages in a single session, or any document viewing of 10 minutes or longer.

delivery. For instance, the University of Florida uses Alibris booksellers for all PDA orders. As a result, the University receives most PDA books in less time than it takes to fulfill a typical ILL request.

Since NetLibrary's introduction of a PDA option for e-books in 1998, similar e-book purchasing plans have been developed by EBL (Ebook Library), ebrary, and MyiLibrary. Library vendors such as Blackwell, Coutts, Ingram, and YBP Library Services also offer patron-initiated purchasing of e-books.[16] Tables 1 and 2 show the vendors used by several libraries for their print and digital PDA programs. For most e-book programs, the selection of a vendor establishes the license terms, including any restrictions on printing, downloading, and copying.

Which Patrons May Order Books through PDA?

Of the thirteen PDA programs listed in tables 1 and 2, twelve accept book orders from all current faculty, staff, and students. The University of Florida program shown in table 1 is open only to faculty, staff, graduate students, and those undergraduates enrolled in distance learning programs.

As table 1 reveals, graduate students are the primary users of ILL-based PDA programs. Undergraduates, despite their larger numbers, usually place no more than 25 percent of PDA requests. No data are available on the characteristics of patrons who use PDA programs not based on ILL requests. However, one might expect that undergraduates are more likely to use PDA when the access mechanism is the OPAC rather than the ILL interface.

What Mechanism Will Be Used to Place PDA Orders?

With ILL-based PDA, books can be selected from the entire universe of published works. The PDA interface need not include a list of available titles as long as it allows patrons to initiate purchases. Of the five ILL-based programs listed in table 1, all but one (Ohio State) use the library's standard ILL interface. At Ohio State, both regular book loans and PDA purchases are handled through WorldCat.

For PDA programs not associated with ILL, the order mechanism must include a database of the titles available for selection. All the programs shown in table 2 use the OPAC to present the available titles. (In most cases, MARC records of the books available for selection are loaded into the OPAC as if the books were already owned by the library. A special location code can be used to identify PDA titles.) The University of Denver also allows patrons to order e-books through the vendor's online database.

As tables 1 and 2 reveal, PDA programs not associated with ILL generate more purchases than those that rely on the ILL interface. This relationship persists even if one discounts the many purchases generated by the Ohio State PDA program (table 2).

Which Titles Will Be Included in the Set of Books Available for Selection by Patrons?

For PDA programs linked to ILL, the set of titles available for selection is presumably unlimited. However, other PDA programs rely on a set of titles (records) that have been loaded into the OPAC or approved for display in the vendor's database. This gives librarians the ability to shape the universe of titles from which patrons may choose.

Of the programs shown in table 2, three use an existing approval plan to generate the list of books available for selection. At the University of Denver and the University of Iowa, patrons can select only those titles that would otherwise have arrived as approval books or slips. The University of Vermont relies on an existing approval plan but limits the PDA list to those titles published by Wiley, Palgrave Macmillan, and Oxford University Press.

Three universities have established preselection criteria specifically for their PDA programs. At those institutions—Southern Illinois University, the University of Florida, and the University of York—the specifications for the PDA title list are similar to those of a simple approval plan.

The librarians at Ohio State University adopted a different approach. They started with the complete ebrary title list, then used broad criteria to remove those titles felt to be inappropriate for the PDA program: computer manuals, expensive items, fiction, self-help books, and works in languages other than English, for instance. The librarians at the University of Texas initially loaded the entire set of titles available from EBL, then later decided to remove certain publishers from the list.

What Activity Triggers a Purchase?

For print volumes, libraries may elect to purchase each title as soon as it is requested or to wait until it has been requested more than once. The situation is more complicated for e-books, since many licenses allow a free viewing period (the first *X* minutes; the first *X* pages) or provide for short-term rentals before the book is purchased. As table 2 shows, the most common practice is to purchase the e-book in response to a specific number of document views, unique page views, or page prints. In nearly all cases, the selection of a trigger mechanism is based on the terms of the e-book license as well as the preferences of the library staff. A single page view seldom triggers a purchase, however, because many patrons view a page or two to determine whether the book is relevant, much as they might read an article abstract.[17]

Some libraries have had to modify their PDA programs in response to trigger thresholds that were set too low. At the University of Newcastle, patrons ordered nearly $70,000 in PDA e-books during the first five weeks of the program. The library subsequently established a policy that e-books would be purchased only after they had been requested five times.[18]

Will the Library Purchase All the Titles Selected by Patrons?

As noted earlier, librarians can maintain some control over their PDA programs by restricting the list of titles available for selection by patrons. Most of the programs shown in table 2 rely on that method.

A second method, used more often with ILL-based PDA, is to establish criteria that determine which orders will be fulfilled through mechanisms other than purchase. Table 3 lists the kinds of items that are excluded from each of the five ILL-based PDA programs. Requests for items in these categories are met through ILL, short-term e-book lease, or other means. All five PDA programs exclude high-cost items, and four of the five exclude items published more than a few years ago. Most also exclude popular titles, fiction, and textbooks.

A third method of controlling the acquisition of PDA titles is to evaluate patrons' requests on a case-by-case basis. Of the eight PDA programs listed in tables 1 and 2, only two involve any kind of subjective mediation. At Ohio State University, a librarian evaluates every request received through ILL. (The criteria shown in table 3 are used only as general guidelines.) As a result, just 26 percent of patrons' requests are fulfilled through purchase rather than ILL. At the University of Texas, requests for items that cost more than $50 are reviewed by a librarian.

Two Core Principles

Two core principles of academic librarianship can be used to guide the assessment of collection development programs such as PDA. These principles are not universally accepted. Nonetheless, several of the problems associated with PDA can be linked to the explicit or implicit rejection of these two ideas.

Table 3. Items Excluded From ILL-Based PDA Programs

Items Excluded	Ohio State*	Purdue	Florida	Mississippi	Nebraska
High-cost items	X	X	X	X	X
Items published more than X years ago	X	X	.	X	X
"Popular" books	X	X	.	X	X
Fiction	X	X	.	.	X
Textbooks	.	.	X	X	X
Computer manuals	X	.	.	.	X
Conference proceedings	.	.	X	X	.
Items that will take more than X days to arrive	.	X	.	X	.
Theses and dissertations	.	.	X	X	.
Audiovisual media	.	.	.	X	.
Encyclopedias	.	.	.	X	.
Lab manuals	.	.	.	.	X
Items not in English	.	X	.	.	.
Self-help books	.	.	.	X	.
Study guides and workbooks	.	.	.	X	.
Technical reports	.	.	X	.	.

* At Ohio State, the decision to borrow rather than purchase an item is made by a librarian on a case-by-case basis; the exclusions listed here are general guidelines.

Libraries Serve Their Parent Agencies

The provision of information is seldom the ultimate goal of the library. Nearly all libraries are sponsored by parent agencies whose missions are fundamentally economic, political, or educational. Corporate libraries exist to meet the needs of corporations, just as public libraries serve local communities or governments. Likewise, school and academic libraries are useful, and likely to be supported, only to the extent that they educate students and contribute to scholarly work.[19]

Academic librarians serve not only the library but the university, and many would argue that their role is fundamentally educational. Within this context, librarians should be concerned with teaching students—not simply with meeting their requests for information. Not all librarians agree with this perspective, of course. As Oakleaf has noted, only 20 percent of libraries in the Association of Research Libraries (ARL) have mission statements that express their goals in terms of teaching or instruction rather than support or assistance.[20] Her research suggests that ARL libraries can be placed into two categories: "(1) libraries that cede instructional territory to disciplinary units and provide only secondary, supplemental support and (2) libraries that identify education as a core value, take responsibility for student attainment of learning goals, and consequently define themselves as active agents in the teaching missions of their institutions."[21]

The decision to adopt an active teaching role has clear implications for assessment. Whenever possible, PDA and other library programs should be assessed using evaluative criteria that are directly relevant to the goals of the parent institution. In the academic environment, the most meaningful criteria are those that focus on educational effectiveness rather than information delivery. For instance, use statistics indicate only whether a particular document has been checked out or downloaded—not whether it has been read, understood, incorporated into the reader's knowledge base, or integrated into his or her research. Rather than just counting the number of times the "download" button has been pressed, librarians should be able to demonstrate the relationship between library services and educational outcomes such as research productivity, test performance, and the quality of students' written assignments.

Selection Increases the Value of the Collection

The most effective collection is not necessarily one that provides access to the greatest number of information resources.[22] As early as 1793, the librarian of Harvard College declared that "books have become so exceedingly numerous . . . that the greatest caution is necessary in selecting those of established reputation from the many that are indifferent or useless."[23]

Why restrict what students are likely to read? Because students' time is limited, and they are far more likely to benefit from reading some works than others. Faculty understand this well. In a typical course, the instructor might select a textbook or a few dozen readings to represent the hundreds of thousands of papers that have been published in the field. The instructor's assessment procedure generally involves two questions: "What ideas are most important for students to know?" and "What documents best represent and communicate those ideas?" Faculty judge the value of scholarly works as tools for their own purposes—their own instructional goals.

This same kind of selection process can be helpful when students are working on their research papers and assignments. Within any academic field, some works are far more important than others.[24] Consequently, part of the academic librarian's role is to ensure that students learn to understand those works that have the greatest educational value. The value of a particular information resource is situation-specific and can vary with the characteristics of the institution, the curriculum, and the students.

By excluding certain materials from the collection, are librarians limiting the range of resources available to students? Technically, no, because students can always use information found outside the library collection. In practice, however, the answer is often yes. This is entirely appropriate if the goal of the library is to educate students rather than to provide information in response to their requests. By limiting the scope of the collection, librarians guide patrons to the works that librarians and faculty, as experts, have found to be most useful. As Fister has noted, most undergraduates value this kind of guidance, whether it is offered at the reference desk or embodied in the collection policy.[25] Interviews with nearly 600 American undergraduates suggest that most are eager to narrow the range of available information resources and that they welcome any mechanism that will direct them to the items they need.[26] Students struggle most not with finding information, but with evaluating documents and deciding which are best for their purposes.

In many ways, selection is similar to weeding. Both use exclusion to increase the value of the collection. At Menlo College, the author's institution, a recent weeding project led to a 35 percent reduction in the number of books in the collection. Space was a consideration, but the primary goal was to make the collection more useful to patrons. The weeding decisions, made by librarians on a title-by-title basis, led to the discovery of numerous books that would have been unhelpful to most Menlo College undergraduates—descriptions of scientific theories that were disproven years ago, historical overviews that omit important new evidence, and complex algebraic expositions of concepts that have since been presented just as completely through simple geometric diagrams. In both the print and digital realms, selection is not just a method of coping with limited funds and space, but an attempt to guide patrons to the resources that are most likely to meet their needs.

Problems Associated with Patron-Driven Acquisition

PDA programs are susceptible to a number of problems. Many of these stem from the tendency to view library services in purely technical terms, as if the ultimate goal were to deliver documents in response to requests. The six problems mentioned here can be seen, to some degree, in each of the PDA programs listed in tables 1 and 2.

Failure to Distinguish Between Students' Immediate Desires and Their Long-Term Educational Needs

Undergraduates tend to focus on performance goals rather than learning goals, emphasizing the tasks that are necessary to achieve specific, short-term objectives.[27] This behavior conforms to Zipf's principle of least effort, one of the most far-reaching and widely supported theories in the social sciences. In its simplest form, the principle states that each individual will follow the path of least resistance, using no more (and no less) effort than believed necessary to achieve his or her goals.[28] For instance, a student writing a paper that requires two books and four peer-reviewed articles on a particular topic is likely to stop searching when he finds two books and four articles on that topic. Document characteristics such as authority, readability, and length might be considered, but the only essential components of relevance, from the student's perspective, are document type (book or scholarly article) and subject.

Within the library setting, the distinction between students' immediate desires and their educational needs has been widely recognized. After all, the concepts of need ("what an individual *ought* to have"), want ("what an individual would *like* to have"), demand ("what an individual *asks* for"), and use ("what an individual actually *uses*") were set forth by Maurice B. Line nearly forty years ago.[29] If students' immediate wants or demands drive collection development decisions, then an information delivery system that quickly responds to those desires is ideal. However, the educational goals of the university are seldom fully represented by students' immediate desires. For one thing, the instructor's expectations may not always be apparent to students. The instructor may assume, for instance, that the works cited by students will be the more important ones, feeling no need to mention such an obvious assumption. Moreover, the true aim of the assignment—learning—is sometimes not directly embodied in the work that students hand in for the course. A completed assignment does not itself represent learning, although faculty often plan their assignments based on the expectation that students will learn through the process of completing the required work.

Both faculty and librarians have a responsibility to maintain and strengthen the link between course requirements and learning. One way to strengthen that link is to adopt a broad view of information relevance. Much of the library and information science literature defines relevance solely in terms of the information-seeker's immediate objectives.[30] However, a broader perspective would allow the assessment of relevance in terms of the university's goals as well as the patron's desires.[31] The objectives, requirements, and preferences of faculty and librarians can be legitimately incorporated into the assessment of relevance, both when working with students directly (in the classroom or at the reference desk, for instance) and in the development of the library collection. Through book and database selection, librarians can ensure that the educational goals of the university influence the resources students are likely to use in their work. Among other things, librarians can identify and select high-quality publications, avoid the selection of low-quality publications, and provide access to catalogs, databases, and other mechanisms that maximize patrons' odds of finding the documents that best meet their needs.

Failure to Make Full Use of Librarians' Knowledge and Expertise

Many undergraduates lack the expertise that would allow them to select the most relevant titles from the universe of published works. The subject librarians at Purdue University and the University of Texas expressed exactly this concern when their PDA programs were under development. As Anderson and associates have noted, "Librarians need to accept the responsibility of developing the collection . . . as subject experts with the knowledge provided by reference experience."[32]

Admittedly, accounting students will have greater knowledge of accounting than most librarians do. However, librarians are likely to have more extensive professional knowledge, institutional awareness, and breadth of subject knowledge. Specifically, librarians' selection decisions reflect their greater

- knowledge of the research process;
- knowledge of academic expectations and norms;
- awareness of cultural and historical contexts that influence the meaning of events and social issues;
- knowledge of institutional priorities and programs;
- long-term familiarity with certain courses and faculty;
- professional expertise and experience with database searching and other methods of document discovery;
- familiarity with the full range of selection tools;
- access to professional communication networks;
- knowledge of publishers, license agreements, and pricing models;
- knowledge of the library collections of the home institution; and
- knowledge of the collections and services available at larger or more specialized libraries.

Unlike most undergraduates, librarians know that an Island Press book on ecological restoration is likely to be more authoritative than one published by Xlibris, and that some of the "pro and con on social issues" series are of greater scholarly value than others. Librarians know that Paul Krugman is a Nobel laureate and that Malcolm Gladwell is a journalist. They know that research sponsored by the Center for American Progress is likely to incorporate a different political perspective than that of the American Enterprise Institute, and that Bernan Press titles often are available at lower cost from the Government Printing Office. Librarians have successfully completed the academic tasks that challenge many students, and most have gained a comparative perspective based on experiences at more than one institution.

Many undergraduates, in contrast, have only a limited range of academic experiences at a single university. Without repeated exposure to a wide range of information resources, they have only limited grounds for deciding whether a particular title will best meet their needs. As earlier work suggests, undergraduates can distinguish between excellent and inadequate resources "only if they have been exposed to both—and only if subsequent evaluations of their academic work have taught them the difference between high- and low-quality research."[33]

Likewise, few students are in a good position to assess the value of each potential acquisition in relation to the collection as a whole. A new title, no matter how good, is of relatively little value if its content and style of presentation are already represented among the other books in the collection. When evaluating an information resource, most collection development librarians focus not on the value of the work itself, but on the value it would add to the set of works already held by the library. Students, in contrast, have neither the institutional knowledge nor the inclination to undertake that same kind of assessment.

Two studies have evaluated patrons' book selections in accordance with the standards commonly used by collection development librarians. In 2011, Shen and associates demonstrated that relatively few of the books selected by students at Sam Houston State University would have been acquired by subject librarians.[34] They first compiled a list of the ebrary titles purchased by patrons over a sixteen-week period. Subject librarians in five disciplines, working from the same list of available titles, were then asked to mark those items they would hypothetically purchase if unlimited funds were available to them. Only 30 percent of the patrons' selections were included in the librarians' lists of relevant e-books. Moreover, patrons were more than twice as likely as librarians to select nonacademic titles (those in the YBP "popular" category). Shen and associates did not specify how many of the e-books were selected by undergraduates, although fewer than 14 percent of the students at Sam Houston State University are degree-seeking graduate students.[35]

In contrast, the selections made by graduate students and faculty do conform to generally accepted collection development standards. Anderson and associates evaluated the books acquired through the PDA program at Purdue University, where 96 percent of the PDA titles were selected by graduate students and faculty.[36] They found that the university's subject librarians would have used money from their departmental allocations to acquire 85 percent of the patron-selected titles. Moreover, nearly 90 percent of the PDA selections were published by university presses or other academic publishers. According to the subject librarians, only 2 to 4 percent of the patron-selected books were inappropriate for a university library collection.[37]

This evidence, while limited, suggests that undergraduates often lack the knowledge and expertise needed to make good selection decisions. At the same time, faculty and graduate students seem well suited for that role.

Failure to Represent the Full Range of Library Stakeholders

PDA programs grant selection authority to a limited group of stakeholders: current patrons who use both the library and the PDA selection mechanism. As Smith has noted, many PDA programs give a further advantage to those patrons most familiar with e-book technology.[38] However, a complete list of library stakeholders would include several other groups: patrons who do not use the library, future students and faculty, scholars from other institutions, the library as an organizational entity, and the university as a whole.

Many current students might be happy with a short-term license for the e-books most useful to them, even if that license provided no long-term access and was not economically sustainable for more than a few years. Librarians, in contrast, have a duty to maintain sustainable access to meet the needs of future library patrons.[39] As Tyler and associates have noted, librarians tend to emphasize the big picture, focusing on both current and future campus priorities.[40] In contrast, "patrons know little and care less for such things."[41] Likewise, Evans and Saponaro recognize that "collection development, to be effective, must be responsive to the *total* community's needs, not just to those of the current or the most active users."[42]

Systematic and Idiosyncratic Biases in Selection

An overreliance on PDA can lead to collections that are poorly balanced. Imagine a situation in which each member of the university community has equal authority to select library books. The resulting collection is likely to overrepresent the needs of larger groups (students writing lower-division papers, for instance) and to underrepresent the needs of smaller groups such as faculty, students in courses with low enrollment, and individuals with minority viewpoints. At best, the effect is the same as that of allocating book funds to departments solely on the basis of enrollment, discounting other relevant factors such as the number of faculty, the number of majors and graduate students, and the number of courses offered.[43]

A second concern is that PDA programs give too much authority to individual patrons, whose selections may be idiosyncratic in any number of ways. As Anderson and associates have pointed out, "Relying on users alone could lead to a misshapen collection, as in the past when departmental faculty members had the responsibility for developing the collection and one or two faculty members spent all the departmental allocation on their narrow research areas."[44] At the University of Mississippi, most PDA users selected just a single title, but some chose substantially more. One patron selected nearly 170 books—about a quarter of the annual total.

A third concern is the potential for bias in level of presentation (basic versus advanced). Some authors worry that undergraduates are too likely to select introductory titles on hot topics such as current politics.[45] In that case, weak areas of the collection are unlikely to be strengthened over time because PDA funds will be diverted toward introductory topics in subjects with high enrollments and a relatively large number of course assignments. At the same time, other authors suggest that first- and second-year students will be underserved if faculty and graduate students select too many specialized research monographs.[46]

PDA also raises a system-wide concern: the potential for greater uniformity among research library collections. If adopted on a broad scale, PDA might eventually result in "very similar and perhaps similarly shallow collections across different libraries."[47] This is especially likely if the available titles are limited to those offered through the major vendors, whose catalogs may not include the output of specialized or foreign publishers.

Potential for Overspending and Associated Budgetary Problems

Biases and related equity issues may arise when patrons' requests for PDA titles must be reined in by budgetary constraints. A major concern of participants at the 2008 Charleston Conference on Book and Serial Acquisition was the possibility of spending the available budget partway through the year, thereby delaying or preventing the purchase of subsequently published titles.[48] Ohio State University, Southern Illinois University, and the University of Denver all encountered this problem shortly after implementing their PDA programs. All three responded by cutting off patrons' ability to select PDA titles once the allocated funds had been spent. One librarian described this action as "a fairly easy solution," and another had no problem with such a practice: "We consumed our budget allocation in the first six months. . . . That's what the money was for. Whether we bought the books at the beginning of the year or the end, we would have spent the money."[49]

Admittedly, cutting off purchases in mid-year is an effective way to stay within budget. However, it does nothing to address the far more serious collection development and public service issues that arise. The full implications become apparent if one imagines a library that cannot buy books in the second half of the fiscal year. In its extreme form, this method of budget control fosters inequity in the distribution of resources, creating a disadvantage for students who write papers—and faculty who plan courses—in the second half of the year. The educational implications are especially apparent for students in year-long thesis programs, who may have trouble following up on ideas that occur to them later in the year. By cutting off purchases in mid-year, the library signals that students ought to have identified their sources earlier—that research is a formulaic procedure based on a body of literature identified at the outset rather than an iterative process that leads to new insights and new sources of knowledge.

In the long run, a mid-year cutoff can lead to the systematic underrepresentation of works published later in the year—not just in one particular library, but in all the libraries that discontinue PDA purchases when their funds run out. A mid-year cutoff also can delay the purchase of important new titles until they are no longer available. Perhaps most importantly, it can lead to a loss of confidence in the library as an institution, fostering the view that the library is unreliable in the services and collections it makes available. How are patrons likely to respond when they find that their unlimited access to books has suddenly changed to no access at all? How will faculty view the library when they discover that important new works—the books their colleagues are talking about—are not available at their home institution? Conceivably, faculty with external funding may even bypass the library entirely, purchasing books immediately with grant money rather than waiting for the library to meet their needs.

Some of these problems can be reduced by adopting a shorter cycle of fund allocation for the PDA program—by making funds available at the start of every month, thereby delaying purchases only until the beginning of the subsequent month. That strategy may lead to additional problems, however, especially if it requires the removal or suppression of the bibliographic records for PDA titles every few weeks. The only effective long-term solution is to modify the PDA program so that no systematic overspending occurs. For instance, the University of Newcastle responded to overspending by increasing the number of patron requests required to trigger a PDA purchase.[50]

Issues Related to Bibliographic Control

Many PDA programs use the OPAC as the primary mechanism for selecting books. The OPAC may therefore include several kinds of materials: print and media items that are immediately available on the shelves, e-books that are immediately accessible online, and print items that can be selected for the collection but are not immediately available. This may lead to frustration when patrons learn that some of the items in the catalog cannot be accessed immediately. Moreover, some e-book vendors provide incomplete MARC records. For instance, the records supplied to the University of Texas by EBL did not include subject headings and were sometimes inaccurate.

A greater difficulty arises if patrons' ability to select books is discontinued during the year, as described earlier. When that happens, the unselected PDA titles are usually removed from the catalog until they are once again available for purchase.[51] Although this practice keeps patrons from receiving an "item unavailable" message when they try to order books, it also means that the records for particular items will disappear and reappear every few months. This is likely to reduce patrons' confidence in the library catalog, especially among students and faculty working on long-term projects.

Problems Specific to E-Book PDA Programs

PDA programs that provide access to e-books rather than print volumes are prone to a number of additional difficulties. Although e-books have the obvious advantage of immediate access, several problems can be traced to the ways in which e-books are marketed, priced, and licensed.

Limited Availability of Academic Titles as E-Books

E-book PDA programs can be effective only if the titles that meet patrons' needs are available in digital format. However, even the most recent studies have shown that fewer than half of all new academic titles are available as e-books.[52] As Slater has noted, "The lack of available e-book content may be the single largest limiting factor in the growth of e-book market share in academic libraries."[53] Ebrary, the e-book vendor with the largest catalog, offers just 31 percent of the titles profiled by YBP Library Services.[54] Although popular books tend to be widely available on multiple e-book platforms, the same is not true of scholarly titles. Recent estimates suggest that only 11 percent of currently available e-books are intended for the academic market.[55]

Studies of the e-books available in particular subject areas further demonstrate the problem. More than half the titles listed in *Doody's Core Titles in the Health Sciences* are not available in any digital format, and many of the readings identified as essential by medical school faculty are likewise unavailable as e-books.[56] After evaluating several e-book collections, the librarians at the University of Pittsburgh Health Sciences Library concluded that no vendor could supply the titles they needed.[57] Only 31 percent of the nursing and business titles acquired by Adelphi University in 2008 were available as e-books.[58]

A related issue is that e-books are more widely available in some fields than in others. In history, for example, e-books have been neither widely available nor widely used.[59] These disciplinary differences may lead to biases in selection if the likelihood of selecting a particular title varies with its availability as an e-book. As Smith has pointed out, the PDA selection model is necessarily biased in favor of the formats and disciplines most suited to its application.[60]

Digital Embargoes

Many academic titles are released first in print, then only later as e-books. A publication lag of three to eighteen months is common.[61] These digital embargoes are usually an attempt to protect print sales, which generate the most revenue for publishers. As Hodges, Preston, and Hamilton have observed, "The longer the hardcover edition is the sole source of content, the more money the publisher makes. . . . The timing of each release [hardcover, softcover, and e-book] is based on a schedule that publishers hope will maximize profit."[62]

Ironically, this business model negates a major advantage of e-book technology: the possibility of reducing the time from manuscript acceptance to formal public distribution. Moreover, libraries that rely on e-book PDA programs may be systematically delaying their patrons' access to new titles. Unless the publication lag is eliminated, the problem can be resolved only by allowing patrons to select from a catalog that includes both print editions and e-books. So far, only two universities—Denver and Mississippi—have instituted PDA programs that allow patrons to choose either format.

High Prices of Academic E-Books

When purchased individually, academic e-books are more expensive than their print equivalents. Prices 50 percent higher than print retail are not uncommon, and many vendors charge additional platform fees.[63] This may seem counterintuitive, especially since e-books do not require paper, printing, binding, or shipping. However, manufacturing and distribution costs account for just 12 percent of the cost of a typical printed book, and the elimination of print production costs is usually offset by formatting, quality assurance, and digital distribution costs that are unique to e-books.[64] Moreover, academic publishers must recover their fixed costs over a relatively low number of copies (sales). A modestly successful novel can easily sell five or ten thousand copies, while most academic titles sell just a few hundred.[65]

In 2010–11, the average price of a softcover book profiled by YBP was $79.49; for hardcover, the average price was $80.61. However, the average price of an e-book profiled by YBP was substantially higher: $97.10. EBL, ebrary, and EBSCOhost all had average prices between $96.34 and $98.24.[66] Of course, the titles offered as e-books may be systematically different from those available in print. That is, characteristics other than format (discipline and publisher, for example) may account for the price differential. Nonetheless, the available evidence suggests that academic e-books, when purchased individually, are more expensive than print.

E-book prices may be substantially lower when subject collections or other multititle packages are acquired. For example, the University of Idaho purchased more than 43,000 NetLibrary and ebrary titles at an average cost of just $1.97 per title.[67] Those e-books were not part of a PDA program, however, and the titles in each collection—the initial holdings as well as the additions and deletions over time—were controlled by the vendor rather than the library staff.

E-Book Licensing Issues

Nearly all e-books are licensed (leased) rather than purchased. E-book license agreements limit libraries' and patrons' rights in significant ways. Moreover, most e-book vendors have adopted licensing models that prevent users from taking advantage of the benefits that e-book technology might otherwise provide.

Licensing issues and use restrictions are major barriers to the widespread adoption of academic e-books in both U.S. and U.K. libraries.[68] For example, e-book leases often require annual payments for content that remains static over time. Even licenses that grant perpetual access can involve annual platform fees in the thousands of dollars.[69] Moreover, many licenses allow vendors or publishers to respond unilaterally to perceived breaches of the license terms. As Nabe and associates have pointed out, "The trigger event could be something as simple as a class of students browsing an e-book faster than is permitted."[70] In some cases, the vendor can alter or withdraw files from the user's device without his or her permission.[71]

E-book PDA license provisions limit the ways in which libraries can circulate and use e-books. Perhaps most notably, the First Sale doctrine does not apply to e-books and other leased information resources. In the United States, purchasers of printed books may sell, lend, or transfer them with only minimal restrictions. E-book licensees have no such rights, however.[72] In addition, many e-book licenses prohibit the kinds of lending and use on which libraries have come to rely. Some licenses limit the number of times each title can be viewed; vendors may require additional payments or even cut off access when the limit has been reached.[73] Many agreements also limit the number of users who can view a title—a particular problem for in-class use—and prohibit the use of e-books for course packs, course reserves, and ILL.[74] Finally, many contracts allow access only by current students, faculty, and staff, thereby excluding community (walk-in) patrons.[75] Consequently, libraries may have to purchase and implement technological methods of access restriction that would otherwise be unnecessary.

Other license terms limit the ways individual patrons can use e-books. Nearly all licenses restrict the extent to which patrons may view, print, and download files.[76] For example, the e-books in the University of Texas PDA program cannot be downloaded at all; patrons may print up to 20 percent of an e-book, and may copy and paste no more than 5 percent. In fact, most e-book contracts require users to give up rights that would otherwise be theirs under the Fair Use and Educational Use provisions of U.S. copyright law.[77] As Slater has noted, "The unexpected limitations [patrons] encounter when using e-books are not inherent to the format. Most often, they are purposefully imposed limitations tied to digital rights management techniques."[78] That is, many of the problems associated with e-book PDA are essentially economic and legal rather than technological.

Conclusion

Since the 1970s, librarians have been responsible for book selection in most American universities.[79] The conventional librarian-driven model places selection in the hands of individuals with both professional and disciplinary expertise. In contrast, most PDA programs give selection authority to undergraduates, who have neither the knowledge nor the incentive to build balanced collections that account for the needs of all the library's stakeholders. Specifically, PDA programs are prone to at least six problems:

- failure to distinguish between students' immediate desires and their long-term educational needs
- failure to make full use of librarians' knowledge and expertise
- failure to represent the full range of library stakeholders, such as future students and faculty
- systematic and idiosyncratic biases in selection, especially when particular individuals or groups account for a disproportionate number of PDA orders
- potential overspending and associated budgetary problems, which may lead to the underrepresentation of works published later in the year
- cataloging issues that may impede information discovery and reduce patrons' confidence in the library

Four additional factors—limited availability, digital embargoes, high prices, and licensing issues—may lead to further complications for those PDA programs that rely on e-book technologies.

Some of these problems, such as the emphasis on students' short-term goals, are intrinsic to the patron-driven model of collection development. Research suggests that even the most carefully designed PDA programs are unlikely to lead undergraduates to adopt a long-term perspective toward collection development.[80] In contrast, problems such as overspending and idiosyncratic bias can be mitigated by combining PDA with other selection methods, by limiting selection authority to particular groups of patrons, by restricting the set of titles from which patrons can select, and by maintaining professional oversight over the PDA selection process. Unfortunately, relatively few PDA programs have adopted these strategies.[81]

Over time, the problems associated with PDA may lead to a decline in the quality of academic library collections. The impact of PDA on collection quality is far from certain, however, because no empirical study has directly addressed the question. An effective evaluation of PDA as a collection development mechanism is likely to require a comparative approach. Ideally, such a study would assess whether PDA is more or less cost-effective than alternative strategies such as investing more time in selector training, gaining access to better selection tools, or evaluating selectors' performance more carefully. The most challenging part of any such assessment, however, is the identification of outcome measures that represent the educational goals of the university. For example, two matched groups of students might be asked to write papers on the same set of topics, one using librarian-selected books and the other using patron-selected books. Expert assessors could then determine which set of papers better represents the body of literature on the topic, which makes better use of published evidence to support the arguments presented, or which demonstrates a fuller understanding of key ideas and principles. The final element of an effective evaluation is objectivity—the use of assessors who have no stake in the outcome of the evaluation but who are nonetheless familiar with the context: the faculty, students, curriculum, course assignments, library collections, and institutional goals.

The issues discussed in this essay have implications not just for PDA, but also for the role of the academic librarian.

Arguably, a librarian who is fully engaged in the educational mission of the university will pay more attention to patrons' needs, actively soliciting their input while maintaining a professional role as expert mediator and guide. For instance, Barnhart, a librarian teaching a graduate course in religion, used the opportunity to provide instruction in key collection development principles.[82] She then gave each student an allocation (typically $350) to spend on books for the library collection. Each student had to justify his or her selections, thereby providing an opportunity for further dialogue and reinforcement. The course had been only moderately popular when the final project was a bibliography, but students displayed much greater interest once Barnhart instituted the book-selection project as a course requirement.

Similar forms of patron-centered, librarian-guided collection development are common at many undergraduate colleges. At Menlo College, for example, the librarians recently ordered several books for a particular student writing about the impact of multiplayer video games on academic performance. The library ordered the books not because the student pressed a button in the OPAC, but because librarians had helped him formulate a research topic, showed him how to identify good books on the subject, and reviewed the titles with him to better understand his needs and to offer an informed opinion of the works he had identified. Many librarians provide this kind of instruction on a regular basis—perhaps not for every student, but for many of them. They help explain the French phrases and the logistic regression results, and they measure their success not by the number of downloads but by the number of students who can demonstrate understanding of the course material.

In contrast, PDA's emphasis on efficient information delivery may come at the expense of broader institutional goals. Although information delivery is an important part of what librarians do, it is neither the primary goal of the university nor a task that librarians are uniquely qualified to undertake. Professionals in fields such as accounting, information technology, journalism, law, marketing, and technical writing can legitimately claim information delivery as a central component of their work. The unique aspect of academic librarianship lies not in information delivery, but in the selection and use of scholarly resources to meet educational needs.

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