L

t in the latter half of the nineteenth century. The practice of using it as a library-collection management and acquisition tool grew in popularity in the 1960s and soon became a widespread and accepted acquisition model. During this time, the government started encouraging education and supporting libraries with increased funding at both the state and federal level, enabling approval plans to gain traction. As the demand for material increased, libraries used the approval plan model as a cost-effective method of acquiring library books. Using this model, librarians, working with their vendors, created profiles that mirrored their collection development policies. Libraries then received shipments of newly published titles that matched their plan and received new title notifications for items that did not match the plan. Approval plans proved to be an effective way for libraries to acquire material that resulted in savings of both time and money.

Brigham Young University (BYU) is primarily an undergraduate institution with selected PhD and master’s programs and enrolls about thirty thousand students. Its Harold B. Lee Library (HBLL) has developed robust general approval plans with extensive US and UK coverage, and more specialized approval plans for fine arts, music scores, and Latin American material. Since the HBLL started using approval plans, the number of books it acquired and dollars spent have continually decreased. Like many libraries at the turn of the twenty-first century, the HBLL was exposed to the disruptive introduction of electronic publishing and the acquisition of e-books. The staff started investigating and launching different e-book acquisition measures, and has since established a comprehensive e-book acquisition strategy. New acquisition models unique to e-books enabled the library to introduce additional cost-savings measures without sacrificing the time savings gained through approval. This study examines what effect the adoption of a comprehensive e-book acquisition strategy has had on the library’s domestic approval plan and how these changes have affected content availability and library expenditure.

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Literature Review

An abundance of literature has been written about approval plans and the acquisition of e-books, including patron-initiated purchasing. The literature on approval plans focuses on their implementation and management, and the evaluation of their effectiveness, including benefits and drawbacks. Many of the studies attempted to discover whether a significant difference existed in the usage of books acquired through approval plans and those selected by subject librarians. An early study and its follow-up endeavors to determine effective acquisition methods by measuring use, and concluded that books selected by librarians were used more than books purchased through an approval plan. A more recent study at the University of Houston found that the usage between the two acquisitions methods was not significant, although firm orders or those selected by subject librarians were again used more frequently than approval books. Other studies reviewed the goals and purposes of approval plans to develop a more rounded collection and to simplify the acquisitions process. Rossi collected literature from 1967 through 1986, creating a bibliography on approval plans that referenced material on both general plans and studies that attempted to evaluate them. He wrote that approval plans were of great importance to librarians in the 1960s and 1970s who both “scorned and praised” them, and that the single most important aspect of an approval plan is the profile. Case’s more recent bibliography attempted to fill gaps from earlier papers and give librarians methodologies, data, and conclusions that could help them evaluate their own studies.

As e-books gained traction with the growth and widespread use of the internet, the professional literature on e-books exploded, giving researchers and librarians a varied and large body of information. In 2007, Connaway and Wicht reviewed the literature about e-books and tried to determine the factors that influenced the offerings and slow adoption of e-books in academic libraries by listing the barriers to e-book acceptance. More recently, Blummer and Kenton reported on best practices for acquiring, cataloging, maintaining, and promoting e-books, while Walters investigated the difficulties associated with selection, licensing, and the acquisition and management of e-books in academic libraries. Shellburne reported on usage patterns and library patron attitudes toward books whereas Ashcroft’s literature review offered guidance for the promotion of e-books.

In their 2014 paper, Pickett, Tabacaru, and Harrell described the expansion of approval plans to include digital content. They suggested that libraries should have the flexibility to manage their e-book purchases through an existing approval plan and take advantage of the cost effectiveness, profiles, and streamlined workflow approval plans provide. The study documented their evaluation process for implementing an e-preferred approval plan, and was offered as an example to libraries considering adopting this acquisition model. Buckley and Tritt recounted their successful 2008 experiment with an e-book approval plan where they managed a dual integration of print and e-books into their collection and acquisition workflow. Using an e-book profile, they established both subject and nonsubject parameters that allowed the e-books to arrive automatically. Their paper describes the implementation, benefits, and limitations of an e-book approval plan, and provides librarians with a list of major factors to consider in designing any plan.

Approval plans were further affected by demand-driven acquisition (DDA) models. DDA, referring to “the automated purchasing of e-books based on patron use,” was identified by the Association of College and Research Libraries’ (ACRL) Research Planning and Review Committee as one of the top ten trends in academic libraries in 2012 and now includes short-term loans (STLs) and evidence-based acquisitions (EBA). Much has been written about the advantages and value of these models. Notable publications include Fulton’s literature review, special issues of Collection Management, and books such as Patron-Driven Acquisitions: History and Best Practices and Customer-Based Collection Development: An Overview. Against the Grain published a DDA issue in 2011 and an STL issue in 2015. This body of professional literature describes DDA as a cost-effective, efficient model and provides information regarding setup, assessment, and management.

Price and Savova describe and evaluate recent e-book acquisition strategies. They provide recommendations to maximize access by minimizing cost, but do not discuss the effect these acquisition methods have had on a general approval plan. In a 2016 paper, Roll presents the positive effect of a DDA-preferred approval plan on the Fuller Library’s ability to provide access to more content at a lower cost. However, the scope of Roll’s paper was limited to two fiscal years of data and to only one of the available e-book acquisition models. The literature review did not uncover research detailing how new e-book acquisition methods work together to change how libraries acquire and provide content to their patrons.

Method

To measure the effect of the HBLL’s e-book strategy on its general domestic approval program, staff first obtained expenditure reports and lists of titles sent from its primary approval vendor, GOBI, formerly YBP Library Services. These reports were then compared with the data pulled from the integrated library system (ILS). The reports were
used to determine the number and cost of approval print and e-books plus information regarding amounts spent on DDA and STLS. Amounts spent on EBA and e-book subscription packages were obtained from the library’s Electronic Resource Management system, Verde. Data for the number and cost of subscriptions and unpurchased EBA/DDA pool titles was obtained from publisher and aggregator websites. Print approval usage data was obtained from the ILS, and both checkouts and in-house browsing statistics were considered. E-book usage statistics were obtained from vendor platforms. Cost and usage were then compared to evaluate value. Firm orders for both print and electronic content were excluded from the scope of this study.

Comprehensive E-book Strategy and Results

The library’s general domestic approval plan is administered using GOBI Library Solutions from EBSCO, a web-based acquisitions tool. The approval plan covers all subject areas and includes both notification slips and automatically shipped titles. Subject librarians set the parameters of the approval profile for their assigned collecting areas. The library revised its well-established approval plan in 2010 to be e-preferred. E-books matching the approval profile may be processed as a single title purchase or added to the patron-driven pool if the publisher offers that option. Table 1 shows the number of print and e-books purchased on approval from 2009 through 2016.

The ebrary pool has more than 40,000 titles from 244 publishers. Table 2 shows how the number of titles available has expanded and depicts both the annual and cumulative number of titles purchased through DDA each year. The primary benefit of DDA is that the library does not pay for a title until a trigger event occurs. A trigger event is defined as either ten unique pages viewed or ten minutes of active viewing time during a single browsing session, or a single page being either printed, copied, or downloaded. Front and back matter, defined as the first and last 5 percent of a title’s pages, are excluded from causing a trigger event. A trigger event can result in either an immediate purchase or an STL in which the library is charged a fraction of the purchase price to grant patron access for a limited period (either one or seven days).

The HBLL has opted to participate in the STL program, with two seven-day STLS taking place before a purchase is triggered on the third use. When the STL option is not available, a purchase is triggered on the first use. Only 12 percent of the HBLL’s total DDA pool is not eligible for STL. All e-books acquired this way are purchased with a single user license unless requested otherwise by the subject selector. This strategy has saved the library thousands of dollars while providing greater access to content. In the past two years, STL rates have increased from 15–30 percent to 15–90 percent. However, even with these increases, the average STL rate has only increased 19–32 percent. Although removing titles with high STL rates from the pool is possible, the library has opted for the titles to remain available. Fewer than 10 percent of the library’s STLs during 2016 had a loan rate of more than 50 percent of the book’s cost. This, combined with the fact that only 9 percent of the DDA titles that receive a first use also receive the second and third use necessary for a purchase to occur, means that the library is seeing overall cost savings even in the face of high STL costs from some publishers. The library hopes that using a DDA approach combined with STL will result in purchases that have consistent demand and that will receive long-term use.

| Table 1. Number of Books Purchased on Approval by Format |
|-----------------------------------------------|------|------|------|------|------|------|------|------|
| E-books       | 0    | 209  | 346  | 596  | 184  | 329  | 274  | 343  |
| Print books   | 9,457| 8,019| 6,867| 5,850| 4,918| 3,956| 3,665| 3,792|

| Table 2. Number of Titles in DDA Pool Compared to Annual and Cumulative Titles Triggered |
|-----------------------------------------------|------|------|------|------|------|------|------|
| Cumulative titles triggered                  | 83   | 541  | 911  | 1,065| 2,616| 2,316|
| Number of available titles                   | 2,395| 7,518| 15,203| 24,826| 34,955| 40,892|
Another way that the HBLL makes e-book content available to its users is through EBA. The library has agreements with both Wiley and Elsevier that allow it to provide online access to most of these publishers’ e-book libraries for a single payment. The years of content included in the agreement are subject to publisher negotiations and the terms specific to the HBLL are confidential and proprietary. Payment is rendered at the beginning of the term and selections for perpetual access are made at the end of the term. In this way, selectors have access to the usage data that was gathered during the term and can use this in their decision-making. The total dollar amount selected may be up to the amount of the original prepayment. EBA has been an effective method of controlling costs while still providing patrons with in-demand content. Table 3 provides the number of titles available through the EBA program and shows that the number of titles used is far higher than the number that the library is obligated to purchase at the end of the term.

Subscriptions to aggregator packages are an additional e-book strategy that the library uses to provide its users with a large library of titles at a controlled cost. Currently, the library subscribes to both ebrary’s Academic Complete and EBSCO’s Academic Comprehensive. Although these two products overlap somewhat, they also contain unique content and the library is satisfied with the value it receives by subscribing to both. The main drawbacks of these package subscriptions are that they do not provide perpetual access and most of the content is several years old. The exception is Safari Tech Books, for which the library currently has the opposite problem. The agreement with Safari is for the most recent two years of content. This causes some titles to drop off suddenly, which is especially problematic when a professor has chosen a Safari title as a course textbook and it disappears in the middle of a semester. Even with these drawbacks, the subscription package has the best cost per title, and when patron usage is considered, it provides a significant return on investment (ROI).

Another e-book approach that the library has previously used was to purchase publisher packages to secure perpetual access to content for a lower rate per title. After evaluating and analyzing the data for this acquisition model, it was found not to be a cost-effective option for the HBLL and not to provide the necessary ROI to justify continued use. The library has suspended this tactic. The use of this model in the past has had little effect on its current approval purchases.

These new acquisition models have changed how the library spends money. Table 4 shows how the allocation of the library’s acquisition budget has shifted away from the approval plan and toward these different collecting methods.

### Table 3. EBA Availability, Use, and Purchases

<table>
<thead>
<tr>
<th>Year</th>
<th>Available</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<td>14,985</td>
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<td>Purchased</td>
<td></td>
<td>534</td>
<td>654</td>
<td>779</td>
<td>776</td>
</tr>
</tbody>
</table>

**Discussion**

The HBLL began experimenting with e-book acquisitions with the purchase of a NetLibrary collection and expanded its acquisition practices as more content became available and the use and purchase options improved. Early on, the library saw success in its title-by-title e-book purchases, package subscriptions, and a DDA pilot program, and it added these models to its e-book acquisition plans. More recently, the library augmented these strategies with STL and EBA models. Each of these e-book acquisition models has affected the approval plan in some way. Instituting these strategies has reduced the number of approval books purchased and the amount spent on these purchases. At the same time, the library has seen a greater ROI because of a lower cost per use.

DDA directly affects the approval plan by decreasing the number of books automatically purchased and increasing the number of titles to which the library can provide access. In this acquisition model, any e-books that match the approval profile are not purchased but are instead added to the DDA pool and purchased after a patron trigger event. This has resulted in a significant cost savings. DDA also provides access to a range of titles that the library could not afford to purchase through the approval plan. For example, by adding titles that only matched the approval profile as notification slips, the library allows patrons to discover a large segment of titles that would not have been acquired through a traditional approval plan. DDA also gives students and faculty a much wider range of titles from which to draw in their research. As seen in figure 1, the library can provide access to a pool of titles that is much larger than a pool of titles triggered annually or cumulatively.

Although the library has been satisfied with the value and cost savings realized by implementing a DDA model, two drawbacks have arisen. One is that the amount spent each year can be unpredictable; the other is patron-information overload. With such a large pool, patrons could trigger potential tangential content when they could have been equally satisfied with previously purchased material. Monitoring, evaluating, and weeding the pool is critical to keeping it relevant and beneficial. Because of budgetary constraints, the HBLL implemented such procedures in 2016 and weeded titles that were added from exclusion slips that were judged to be less relevant to its collecting areas.
The addition of STLs in 2013 further reduced costs while still providing access to a large pool of titles. If not for the additional cost savings provided by STLs, the library would have been forced to shrink the available pool of DDA titles at an earlier date. As a subset of DDA, STLs alone did not affect the approval plan, but they demonstrated the volatility of the current e-book market, which affects approval titles. As publishers react to their changing environment by increasing STL costs, the library carefully tracks and analyzes how these changes increase its expenditure to ensure that participating in STLs continues to be beneficial. After studying the budgetary effects for the past three years, library staff concluded that STLs are still an excellent strategy. Additional changes to STL and DDA eligibility has affected what is eligible for inclusion in the DDA pool and what is purchased through the approval plan.

The major change to the approval plan that accompanied the adoption of EBA was exclusion of the participating EBA publishers from the titles that are automatically sent. Excluding these publishers prevented duplicate purchases and double payments. The HBLL financed its EBA programs by averaging the annual expenditure on titles from the publisher and reallocating that money toward the EBA program. This took money from the approval plan and repurposing it toward a patron-focused initiative. Although the cost and the number of titles acquired via approval decreased, the library provided access to many more titles while keeping costs steady. Figure 2 illustrates the value of the EBA program. In 2016, the library provided access to almost thirty thousand titles through EBA. Patrons used 24 percent of the available titles, but the library purchased only 3 percent of the total pool. That 3 percent represents what the library could have afforded to purchase through the approval plan. Because EBA includes backlist titles, the library can provide access to materials not previously received on approval. The large increase in number of titles available in 2015 was from the library negotiating with one of the EBA providers to add additional years of backlist content to the pool. Unlike DDA, the annual expenditure on EBA titles is known and capped, and having a larger pool presents no drawbacks.

The HBLL employs and has used e-book package models, both perpetual-access models and aggregator-subscription models, in its e-book strategies. Because both models are principally for older content and approval plans consider newly published material, this e-book strategy has had little effect on the decline in the number of titles purchased through its approval plan. These packages have added to the increase in the content the library provides
without significantly increasing library expenditures.

Starting in 2010 when the approval profile was changed to e-book preferred, the number of e-books purchased on approval and the annual expenditure for these purchases steadily grew. Figure 3 demonstrates a dramatic drop in 2013 because of the implementation of the EBA programs with Wiley and Elsevier. When the EBA programs were launched, these publishers were removed from the approval profile to avoid duplicate purchases. However, the drop was short-lived, and in the following year the number of e-books purchased on approval nearly doubled. Some of the increase can be explained by a few publishers reacting to loss of income by removing their titles from DDA eligibility. Any titles from these publishers that were received on approval in 2014 or 2015 were then purchased instead of being added to the DDA pool. The trend over the past two years has continued upward. When comparing e-books and print books acquired through approval, e-books appear to be underutilized because this comparison does not include the DDA. As previously stated, all approval books that were DDA-eligible were added to the DDA pool and not purchased outright, leaving only those ineligible for DDA to be purchased title-by-title. Title-by-title purchases herein refer to approval profile e-books.

Figure 4 compares HBLL’s spending for print approvals to its e-books strategies, including e-book approvals, subscription packages, DDA, and STL. It shows that the sum spent for print approval purchases has steadily declined. It also shows that as the library incorporated additional e-book purchasing models, the combined costs remained fairly level. Within the approval titles, the average cost per title rose from $45 in 2009 to $49 in 2015. However, because of the incorporation of DDA and EBA, the HBLL saw an average cost per title of $1.24 in 2015. In a time of flat budgets and rising material costs, it is
significant that instead of seeing its buying power decrease, the library expanded access to thousands more titles with the same level of expenditure.

Adoption of a comprehensive e-book strategy and the addition of new ways to acquire material has had several positive effects on the HBLL and its patrons. First, patrons can choose from a much broader selection of titles than what the library could have acquired using only the approval plan. E-books are always available and can be accessed from anywhere. While the library defaults to a single-user license for e-book approval and DDA purchases, the EBA and subscription model provide access for an unlimited number of users. This is particularly beneficial if the material is for a course assignment, a practice the library has seen increase since the implementation of the comprehensive e-book strategy. E-books add value for the end user and increase the library’s relevance to the teaching faculty who use the materials for their courses. Almost 90 percent of the library’s most used e-books are assigned as course materials. Faculty regularly express their appreciation to the library staff for making these e-books available.

Usage statistics clearly show that patrons have embraced e-books. A close study of the library’s Wiley EBA usage shows that for titles categorized as “humanities”—which the library is most likely to have an existing print copy—60 percent of the most used had a print counterpart. This comparison showed 1,045 electronic uses (chapter downloads) and 14 print uses (checkouts or in-house) during 2016. Only a third of the print counterparts were used during 2016. Figure 5 shows the cost per use of the library’s different acquisition methods, excluding firm orders. DDA, EBA, and subscriptions have significantly lower cost per use than either the print or e-book approval plans. The comparison between the print and e-book approval-acquisition models shows that the cost per use for e-books is nearly twice that for print books. This wide gap is partly the result of the difference in the cost of the items. The HBLL is a paper-preferred library for content only available in print,
and these books have a lower list price than the cloth or e-book editions. The HBLL also receives a discount on print titles, further reducing their initial cost, which means less usage is necessary for a lower cost per use. Another reason for the considerable difference might be because the e-book approval books are the smallest segment of titles. The library annually purchases an average of 326 e-books through the approval profile. All other e-books that match the profile are added to the DDA pool, and are not purchased outright. With so many e-book choices, it is possible that the subset of e-books purchased on approval were not used because patrons were presented with too many alternatives in the search results. However, even though the cost per use for e-book approval titles is almost double that of print approval titles, figure 6 shows that the cost per use of all purchased e-book models (approval, DDA, and EBA) is much lower than that of the print approval titles. The value is clear. Because of the nature of the programs, 100 percent of the titles purchased through DDA received at least one use and those with STLs, along with EBA titles, were used multiple times before being purchased. This helps to keep the cost per use low. In contrast, fewer than half of the titles purchased through approval over 2013–16 were used in the same period.

**Conclusion**

Switching to an acquisition model that favors e-books has helped the library financially and has led to a better patron experience. Patrons have access to a wider range of materials and benefit from the convenience of online content, which can be accessed anywhere at any time, often by an unlimited number of simultaneous users. The HBLL's comprehensive e-book acquisition strategy includes title-by-title purchases through approval, aggregator subscription packages, publisher packages, and DDA, STL, and EBA. These strategies provide great value to the library because they provide access to many more titles than the library could afford to purchase outright. The cost of the usage of titles available through these programs is much lower than the library achieves with the print books acquired through its approval plan. However, this study has also revealed the relatively low usage of approval e-books purchased outright. The library will examine these purchases specifically to determine whether continuing the policy to purchase approval e-books when they cannot be added to the DDA pool is still appropriate.

In assessing the consequences of each of the other acquisition methods, the library is satisfied with its approach. As new acquisition models emerge, the library should evaluate them to determine what benefits they might provide. For example, testing the ProQuest new Access-to-Own (ATO) model may show that it will help stabilize the volatility of STLs while providing similar benefits. From the preliminary information ProQuest has made available, ATO will allow the library to purchase backlist content with three equal loans of 35 percent each, leading to a final purchase cost of 105 percent of the list price. For frontlist material, two loans of 55 percent would lead to a final purchase cost of 110 percent of the list price. The current STL model with variable rates between 15 and 90 percent results in more cost volatility and a higher final purchase price. Even the lowest rate of 15 percent results in a final purchase price of 130 percent under the HBLL's current program of two STLs before a purchase. Under ATO, the loan cost for backlist material is very close to the current average the library experiences on STLs; even with the higher loan rates on frontlist material, it is worth investigating to determine whether the lower final purchase costs balance out. Experimenting with a print demand-driven program could also prove beneficial to the library.
DDA and EBA have reduced approval purchases by 55 percent since 2009. Nonetheless, the HBLL continues to engage in a robust approval plan. Additional studies might include monitoring the approval program to see if purchases continue to decline and weighing the options to tweak it, discontinue it, or significantly adjust the profile. As approval plans are an ownership model, future discussions could consider the value of ownership versus access. This conversation would complement investigating the usefulness of reinstating publisher packages, particularly compared to subscription packages. The threat of shrinking monograph budgets may require the library to rely more on leased content available through the subscription packages, which provide the lowest cost per title. If this were to occur, understanding the access-versus-ownership implications and having a plan in place would be imperative. For now, the HBLL is satisfied that its current e-book strategy has led to cost savings, a larger pool of available titles, and a highly positive ROI.

References