Measure, Change, Measure

Assessing Changes to a Traditional Approval Plan

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This article details the impact and outcomes of a case study designed to improve the book approval plan at a Carnegie R1 academic library, with implications for assessment of approval plans at large. The project analyzes data from two different time periods: 2019 and 2023. Between these periods, a large update was made to the parameters that control the approval plan as a way to improve the performance of the plan. The authors report on the compilation of purchase and use data and detail their assessment. Findings indicate that using these types of data to guide changes can positively impact the quantity and use of titles arriving on approval.

Introduction

Approval plans are tools intended to save librarians time on collection development without spending hours reading book reviews and placing individual orders. They are an automated, just-in-case[1] method for collection development that relies on various parameters and criteria established by the library and vendor to match books that are then sent to the library. Like many large libraries, the University of Tennessee Libraries maintain approval plans that require no review or approval step. Despite the benefit of time savings, if left unchecked, approval plans can run the risk of overspending limited budgets and supplying titles that do not align with institutional research or curricula.

The 2019 publication, "Using Data to Rightsize Approval Spending," details the University of Tennessee Libraries' effort to assess the primary approval plan and update criteria with the goal to reduce spending and increase the number of titles used.[2] The approval plan was reevaluated in 2023 to determine whether the 2019 updates met the intended goals, and if so, which adjustments led to meaningful changes. This article compares the 2019 and the 2023 data to draw conclusions about the changes made between these periods. For clarity throughout this article, purchase and use activity are referred to by the years analyses were conducted: 2019 and 2023. The primary indicators considered are the number of titles purchased through the plan and the number of those titles that showed evidence of use within two years of their purchase. Areas of the plan that had no changes applied to Library of Congress (LC) classification parameters are used as a control group and provide a baseline to understand the impacts of changes made to LC areas. Overall, changes made to the approval plan were successful in reducing the number of titles purchased and broadly increasing the percentage of

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automatic purchases that were used. Libraries interested in improving approval plans could adopt the method described in this article for their own analyses.

Literature Review

As approval plans have become ingrained in library collection development practices, many researchers have added to the decades-long stream of literature and discourse with case studies assessing the effectiveness and potential uses of approval plans.[3] Much of this work focuses on approval plans as new additions to a library's ecosystem or assessments to determine whether an approval plan is successful or justified to continue.[4] For many libraries, budget pressure and the staff time required to manage plans are the impetus for assessing approval plans.[5]

Circulation statistics are the leading metric used to assess approval plans, although the definition of a successful circulation varies for each environment.[6] Comparing the usage of print books and ebooks to assess the performance of an approval plan is common. Although a theme of higher use in ebooks than print books purchased via approval plan is generally found, other findings vary widely in different environments and contexts.[7]

Some researchers suggest that defining success by the number of circulations points back to historical literature that predates our modern library systems. Fry called this conventional wisdom into question ten years ago, pointing out the lack of data to support these claims.[8] This critique encourages librarians to reconsider what they frame as success and whether circulation is the most valuable metric. With approval plans capable of making sweeping, high-level changes, a study of circulation changes over time and in step with plan updates can help examine that question in the modern acquisitions landscape.

Even with the long history of approval plans in libraries, very little research on assessing approval plans to improve their performance has been added to scholarly discourse. Studies that investigate the success of changes made to approval plans are even more difficult to find. Despite the widespread adoption of approval plans and a longstanding history of assessments, a distinctive gap still exists in the literature. Because approval plans are treated as standard practice in collection development, evaluation and ongoing improvement of performance should be standard practice as well. This article intends to move the discussion forward and begin to address that gap.

Method

The authors utilize print and ebook data from the Libraries' main approval plan provider, EBSCO Information Services' GOBI Library Solutions (GOBI), and integrated library system, Alma, to build the 2019 and 2023 datasets.[9] Titles purchased via the approval plan are identified using the financial records of a fund dedicated to the approval plan. Although the Libraries' approval plan does provide notifications for books of possible interest (termed "slips" by GOBI), this analysis includes only purchases made automatically (termed "shipment" by GOBI). Books eventually purchased based on slip recommendations are outside the scope of this analysis because they do not provide significant time savings for the collections or acquisitions teams and therefore do not meet the automation benefits of approval plans. Title-level use and bibliographic data were extracted from Alma for analysis. To make the datasets as comparable as possible, we selected an equivalent period of data (thirty-one months) from the available data. For this comparative analysis, the 2019 set includes 27,177 purchases made between May 19, 2016, and December 21, 2018, and the 2023 set includes 18,758 purchases made between November 18, 2019, and June 30, 2022.

Classification Data

GOBI's approval plan is structured largely around LC classifications with additional parameters for publisher, format, and interdisciplinary considerations. Each time the approval plan is updated or changed by the library, those changes are noted in a table of more than 3,000 ranges. For this study, purchases are considered part of the LC class in which they are cataloged locally. Occasionally local classification practices present a limitation to the study by placing a title in a different LC class than the class GOBI assigns. These titles are generally interdisciplinary treatments of a subject. Titles that could not be assigned to a classification range are excluded from the comparative analysis.

GOBI's classification range system includes hierarchically nesting classes. For example, it is possible to set purchasing instructions for the parent range class BL (Religion), to set different criteria for the child range BL175-299 (Natural Theology), and yet to revert BL238 (Fundamentalism) to the overarching criteria for BL. Changes made to parent ranges are coded onto each of their child ranges; however, if a parameter already applied to a child range was newly applied to the entire parent range, that child range was coded as unchanged. A wide variety of changes were flagged and ultimately categorized based on their primary action:

- No change/unchanged: classification ranges to which no change was made between the 2019 and 2023 datasets. This includes sections of the humanities, social sciences, and natural sciences, and serves as a control group for the analysis.
- Removed: classification ranges that purchased titles automatically in the 2019 dataset and were excluded from automatic purchases in the 2023 set. A variety of subjects are represented in this category and are often subranges rather than wide ranges. Exceptions and other nonclassification parameters can still trigger purchases in these ranges.
- Added: the group of classification ranges that were blocked from automatic purchases in the 2019 dataset and allowed automatic purchases in the 2023 set. Changes in this set usually affect smaller subtopics in select areas of the humanities and social sciences.
- E-preferred: classification ranges purchasing print books instead of the ebook equivalent in the 2019 dataset and updated in the 2023 dataset to purchase ebooks instead of the print equivalent, if available. Ranges across several disciplines were included in this change category. Titles in e-preferred ranges sometimes arrive in print because they are not available in electronic format within a set time after the initial print publication.

- Added exception: classification ranges updated with specifications in the 2023 dataset that differ from the entire approval plan or the parent range. Exceptions include inclusion or exclusion of a specific publisher, type of material, or interdisciplinary aspect of a topic. For example, the approval plan may be scoped to purchase titles published only in English, but a subset of ranges could have an exception to allow for titles published in German. For this study, exceptions related to format are coded as e-preferred or print preferred.
- Removed exception: the group of classification ranges in the 2023 dataset updated with the removal of specifications such as those described earlier. This causes a reversion to the parent range instructions or to the plan parameters at large if no parent range exists.
- Print preferred: classification ranges updated to purchase print books instead of the ebook equivalent. For this study, this change was documented only for a single child range (HT388-400). Very few books were purchased in either study period in this area, and none were used. Due to the small number of titles impacted, the change is not discussed in depth in this study.

This comparative analysis assesses the use of each title individually. To allow for fair comparison between print and electronic titles across multiple generations of COUNTER electronic resource usage reporting schemes in the two analyses, titles are counted as used if there is evidence of use within twenty-four months of the purchase date. Print usage is restricted to external loans only and excludes any in-house or processing-type interactions. Electronic use is compiled using title or chapter downloads from COUNTER Release 4 (R4) Book Report 1 (BR1) or Book Report 2 (BR2) for use before June 30, 2020, and using unique title requests from COUNTER Release 5 (R5) title reports for use after January 1, 2020. In the COUNTER R4 period, some vendors provided only BR1 and others only BR2, and usage is derived from whichever report is available. Similarly, reporting transitioned to the COUNTER R5 code of practice during the spring of 2020, and usage on either version of report is counted.

To help account for the natural variation in the number of new books appearing in different subject areas over time, this study uses a standard error calculation.[10] The geometric mean of the standard error for the change group and the standard error for the no change group (the control group) were used to make comparisons between different segments of the plan. A z score that compares the change's magnitude with the standard error is used to assess the significance of the change. Changes greater than 1.96 times the standard error are considered significant ($p < 0.05$). Similar statistical calculations are used to assess the shifts in the share of titles used and the share of titles purchased in electronic format.

Limitations to the Data

Titles are matched to electronic usage reports by ISBN and to print circulation records at the bibliographic record level. If multiple items of a title exist in the collection, the use of any one of those items is included in this evaluation. Multivolume titles are counted as used if any volume has been used during the appropriate time frame. Some electronic titles purchased on approval are also available in our catalog through aggregator subscriptions. Matching at the ISBN level means that use through alternate access points, such as subscription ebook packages, counted as use of the title. The purchase date used for all titles is the date that the order was paid for in Alma. Some titles are received and used prior to this purchase date, and that use is accounted for in the data.

Each LC area is coded with only one category of change. In cases where there is more than one change, the category of change that is associated with greater impact is coded to a range. For example, a change in format is presumed to be impactful to more titles in a range than an exception to a topical aspect. Further study at a more granular level may uncover nuances in the effect of changes to the approval plan.

The data considers use of the purchased titles within a relatively short evaluation period (two years from the date of payment) and does not account for long tails of use often observed in some disciplines.[11] In addition to the short periods of use, the 2023 dataset includes five months when the university was closed and an additional five months when most students were distance learners due to the COVID-19 pandemic. These disruptions are a limitation to the usage data for both print and ebooks because overall use of the Libraries' electronic resources experienced a longer than normal summer dip during 2020. If business had been normal during this period, higher use might have been reported. Despite these limitations, observations in the data still provide evidence that some approval plan changes positively impact the use of purchased titles.

Results and Insights

Changes Outside the Approval Plan

Continual development in library acquisitions and substantial differences in the publishing landscape are threaded throughout the two review periods. Three big changes outside the control of the approval plan contribute to a difference in book purchasing between datasets. First, the COVID-19 pandemic reduced the number of titles produced for reasons such as delays at printing factories due to closures or decreased staff and disruptions in supply chains.[12] Based on GOBI reports, the number of total titles profiled for all customers, regardless of matching with the Libraries' approval plan, declined by 1.1 percent between the two periods, from 180,961 titles profiled between May 19, 2016, and December 23, 2018, to 178,962 titles profiled between November 1, 2019 and June 30, 2022.[13] At the same time, the share of titles profiled in electronic form increased from 79 percent of titles in the 2019 period to 82 percent of titles in the 2023 period.

Second, as part of the changes that impact the 2023 data, the Libraries began moving all eligible electronic titles selected for the approval plan to a demand-driven acquisition (DDA) plan, reducing the number of electronic titles purchased on approval while still providing access to those titles. This process was intentionally created to help keep approval plan costs under control. Because DDA purchases are not accounted for in this analysis, their absence reduces the overall number of purchased electronic titles in the datasets. Between November 2019 and June 2022, GOBI reported that 1,013 electronic titles were manually blocked from arriving on the Libraries' approval plan. Most blocked electronic titles are those that were moved to DDA.

Third, an evidence-based acquisition (EBA) plan for Taylor and Francis (T&F) titles was adopted in July 2021, and all T&F imprints were blocked from being purchased via approval. In the 2019 dataset, T&F imprints account for 16 percent of titles purchased. In the 2023 dataset, T&F imprints account for 21 percent of purchases before July 2021 when the EBA was implemented. Average quarterly approval purchases declined by 18 percent after July 2021. This decline is most notable in the newly added or unchanged ranges of the 2023 dataset.

Considerable alterations impact the overall number of titles purchased on approval and present the reality that even segments of the plan that are unchanged show significant shifts in the number of titles purchased, the share of those titles purchased in electronic format, and the share of purchased items used during the study period. Alterations outside the approval plan have a significant impact on the total number of titles purchased, with 8.4 percent (1,048) fewer titles purchased in the unchanged category of the plan. Usage and purchase comparisons are made with the unchanged ranges as a control group to partially account for these external factors.

Change in Number of Titles Purchased

One of the original goals of assessing and updating the approval plan was to reduce the overall amount spent to make sure that the budget pattern is sustainable and predictable. Historically, there was little attempt to predict how much the approval plan would cost, and it subsequently and consistently overran its allocated budget. When this happened, the plan was often paused and titles forfeited or shipped and billed later. The inconsistency this creates is visible in the odd distributions of the pre-2020 data in figure 1. The fourth quarter of 2019 remains an outlier in the data because the approval

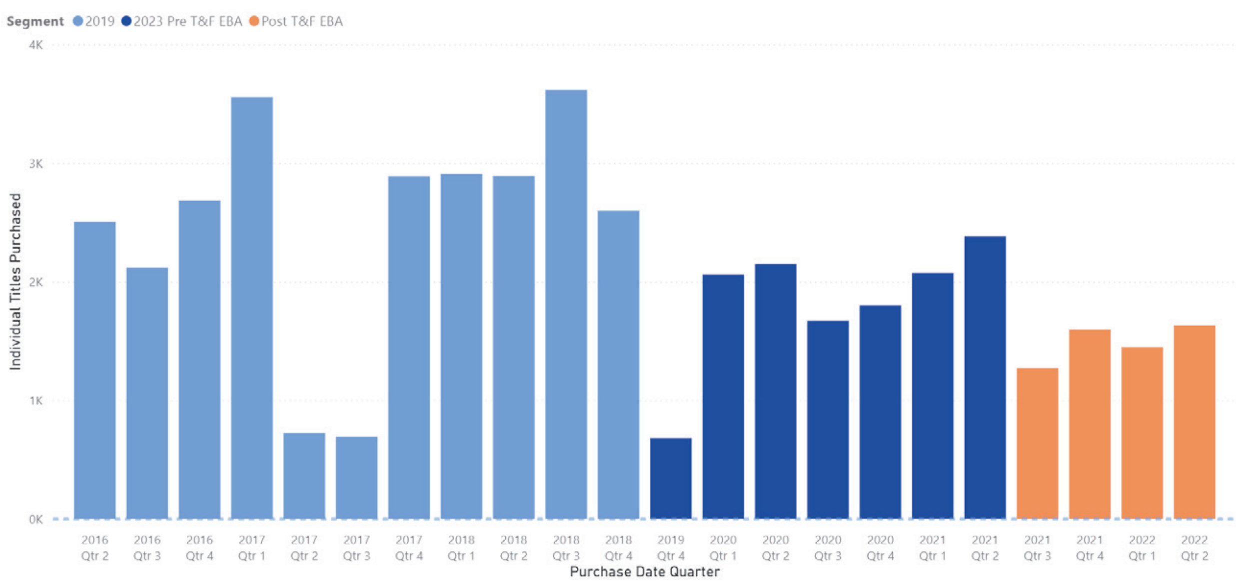

Figure 1. Number of titles purchased quarterly by dataset with purchases after implementation of T&F EBA differentiated within the 2023 data.

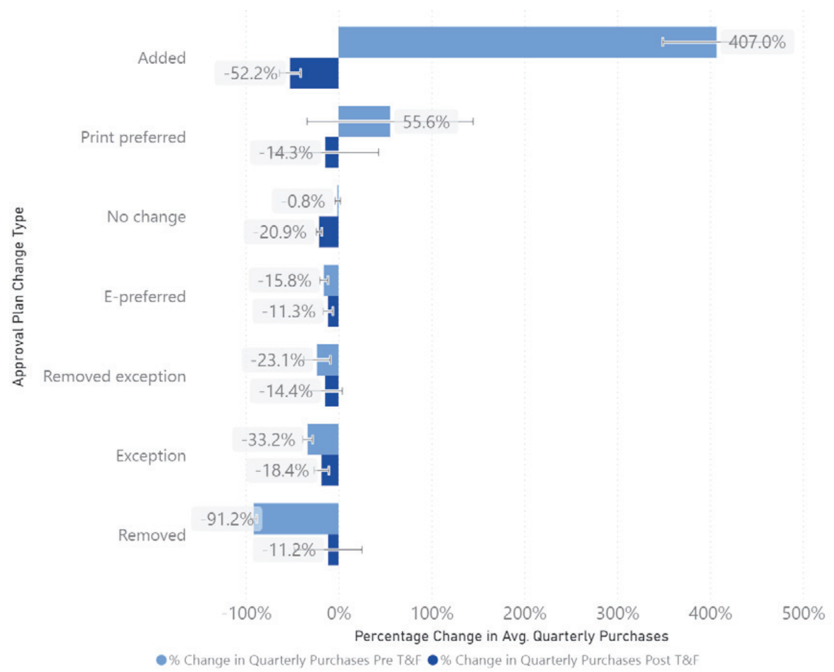

Figure 2. Percent change in average quarterly purchases before and after implementation of the T&F EBA.

plan was largely paused while being updated. To reduce the overall cost, changes were made with the intention of purchasing fewer titles in LC ranges with poor use.

Overall, 30.98 percent (8,419) fewer titles were purchased in the 2023 set compared with the 2019 set. Unchanged areas show a 14.87 percent increase in electronic purchases and a 19.49 percent decrease in print purchases for an overall 8.4 percent decline (1,048 fewer titles) in the control group. As demonstrated in figure 2, quarterly purchases in the areas without change decrease by more than 20 percent after the implementation of the T&F EBA, leading to the conclusion that the mid-2021 removal of T&F publications is likely a major factor in the decrease in purchases overall.

As shown in table 1, removing or adding classifications from the approval plan is the change type that most directly affects the number of titles purchased. Changing format preferences also has a clear effect, even against the backdrop of increasing electronic availability of monographs. Ebook purchases increased by 39 percent overall in the 2023 dataset. Moving ranges from print to e-preferred resulted in 3,062 additional ebook purchases from a baseline of twenty-one purchases in the 2019 dataset (14,581 percent increase). This is a substantial shift in comparison with other areas of the plan. Purchase of ebooks in ranges that did not change to e-preferred increased from 31.8 percent of the 2019 set to 46 percent of the 2023 set (15 percent increase). At the same time, purchases in the e-preferred areas decreased overall relative to the unchanged classifications. How this decrease relates to the change in format preference is unclear.

Table 1. Changes in Purchases (2023 over 2019)

Category of Change	Format	Purchases 2019	Purchases 2023	Difference in Purchases	% Difference in Purchases	% Difference in Purchases vs. No Change Group	Standard Error: (% +/−) Difference in Purchases vs. No Change Group	z Score: Difference in Purchases vs. No Change Group
Added	E	42	189	147	350.00%	335.1%	36.26%	9.24
	P	42	156	114	271.43%	290.9%	33.53%	8.68
	Subtotal	**84**	**345**	**261**	**310.71%**	**319.1%**	**24.69%**	**12.93**
E-preferred	E	21	3,083	3,062	14,580.95%	14,566.1%	265.31%	54.9
	P	5,150	1,094	(4,056)	−78.76%	−59.3%	2.12%	27.98
	Subtotal	**5,171**	**4,177**	**(994)**	**−19.22%**	**−10.8%**	**2.24%**	**4.83**
Exception	E	1,502	1,369	(133)	−8.85%	−23.7%	4.25%	5.58
	P	1,631	583	(1,048)	−64.26%	−44.8%	3.23%	13.84
	Subtotal	**3,133**	**1,952**	**(1,181)**	**−37.70%**	**−29.3%**	**2.59%**	**11.31**
No change	E	*4,035*	*4,635*	*600*	*14.87%*	*0.0%*	*3.26%*	*0*
	P	*8,457*	*6,809*	*(1,648)*	−19.49%	0.0%	2.07%	0
	Subtotal	***12,492***	***11,444***	***(1,048)***	***−8.39%***	***0.0%***	***1.75%***	***0***
Print preferred	E	9	–	(9)	−100.00%	−114.9%	33.41%	3.44
	P	–	*9*	*9*	–	–	–	–
	Subtotal	***9***	***9***	**–**	***0.00%***	***8.4%***	***47.16%***	***0.18***
Removed	E	1,157	271	(886)	−76.58%	−91.4%	4.00%	22.87
	P	4,663	219	(4,444)	−95.30%	−75.8%	2.09%	36.23
	Subtotal	**5,820**	**490**	**(5,330)**	**−91.58%**	**−83.2%**	**1.84%**	**45.14**
Removed exception	E	265	250	(15)	−5.66%	−20.5%	8.87%	2.31
	P	203	91	(112)	−55.17%	−35.7%	8.57%	4.16
	Subtotal	**468**	**341**	**(127)**	**−30.98%**	**−18.70%**	**6.20%**	**3.02**

Note: Rows in italics indicate no significant difference from the no change group.

Areas with added or removed exceptions show fewer purchases relative to the unchanged areas of the plan, with print purchases declining to a greater extent than electronic purchases. It is unknown whether individual exceptions meet their intended purposes without further analysis, but this finding suggests that targeted changes to approval criteria can be effective in decreasing unwanted purchases, without removing ranges altogether.

Use of Purchased Titles

Overall, print use decreased significantly across the study period. For the entire Libraries collection, not limited to titles purchased in the approval analysis, Alma recorded 158,542 loans of physical books during the time frame of the 2019 dataset and only 72,384 loans between September 2019 and June 2022 (time frame covered by the 2023 dataset). Titles purchased on approval in print decline in usage across the study, with nearly 22 percent of print titles in the 2019 dataset loaned within two years of purchase (4,350 titles used of 20,146 purchased). In the 2023 dataset, despite the significant decrease in print purchases, only 14.8 percent of print titles were loaned within two years of purchase (1,329 titles used of 8,961 purchased). Major external factors, such as the five-month closure of the library because of COVID-19 in 2020, negatively impacted an already decreasing trend in print circulation. Unchanged ranges in the approval plan serve as a control group to account for these factors and others outside the approval plan changes. This allows for determination of whether increases or decreases in use are significant across the categories of change.

Although print usage decreased overall, areas changed to e-preferred or removed had less of a decrease compared with the unchanged areas. Sections changed to e-preferred or removed also purchased substantially less print. In contrast, newly added ranges purchased more print in the 2023 set than in the 2019 set and show more of a decrease in print usage compared with the unchanged areas. This analysis demonstrates that increasing print purchases, even in a small area, is ineffective at increasing print usage. Adding or removing exceptions did not significantly affect print usage rates. Given the broader environmental shift away from print, changes to the approval plan that do not reduce print purchases have minimal impact on countering declining print usage.

Electronic titles, however, show substantial increases in use. In the 2019 dataset, 28.5 percent of electronic purchases were used within two years of their purchase date (2,005 titles used of 7,031 purchased). In the 2023 set, this percentage increased to nearly 40 percent (3,908 titles used of 9,797 purchased). Because electronic title use can be associated with a patron accessing only a single chapter, it is easier to track electronic usage compared with circulation of a print item, which is recorded only when a patron takes an item out of the library. As print circulation has declined overall, patrons are also increasingly using electronic monographs.[14]

Figure 3 shows that areas switched to e-preferred see the biggest increase in usage rates across formats, with overall usage increasing by 16.72 percent (±1.08 percent) compared with areas that experienced no change. These areas purchased substantially less print in the 2023 dataset compared with the 2019 dataset, and although print use in these areas decreased, it decreased less than the unchanged control group. At the same time, the overall increase in ebook usage helped boost the use of purchased titles in areas changed to e-preferred and suggests that purchasing ebooks in these areas better meets patron needs.

Two categories of changes show significant improvement in electronic usage compared with the areas that went unchanged. The small number of books purchased in ranges removed from the approval plan have the highest usage rate (112 e-titles used of 271 purchased, or 41.33 percent) with 12.32

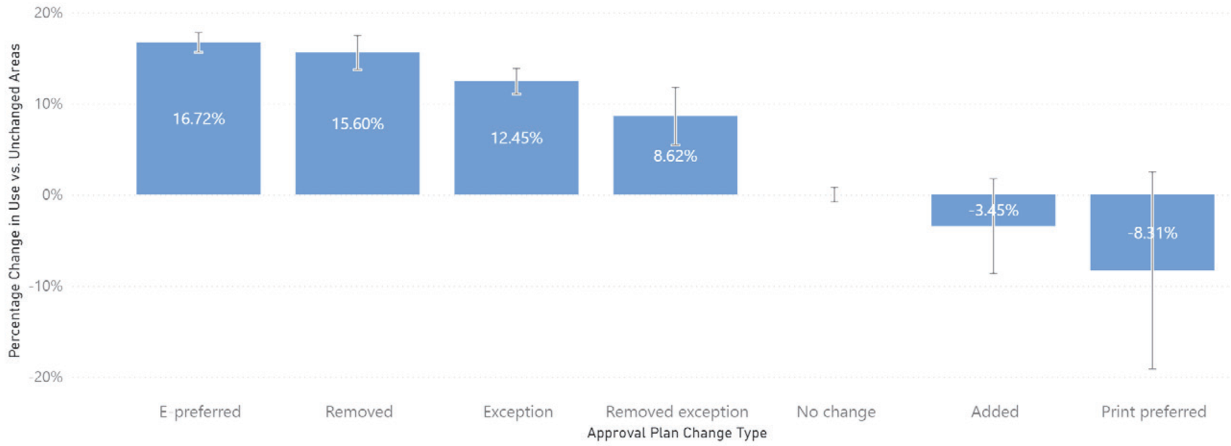

Figure 3. Changes to usage shown by coded categories of adjustment.

percent (±3.05 percent) increase in use above unchanged areas. Titles purchased in the removed ranges are far fewer than in other ranges and would have been acquired through an exception to the range or differences in GOBI and local cataloging practices. Both scenarios suggest that the titles are interdisciplinary in nature. Use of these titles demonstrates value to our users where single-discipline titles in these areas that match parent range parameters or defaults for the plan do not. In contrast with areas removed, areas newly added declined in usage, but the decline is not significant when compared with the areas that went unchanged. Areas in which exceptions were added also have substantial increases in electronic usage with a 7.37 percent (±2.06 percent) improvement above the areas that went unchanged. Table 2 provides an overall summary of changes in use. Driven largely by the shift to electronic purchases, the combined changes resulted in a 7.33 percent (±0.70 percent) increase in the number of titles used in any format within two years of purchase compared with the unchanged areas.

Table 2. Changes to Usage Broken Down By Coded Categories of Adjustment

Category of Change	Format	% Used 2019	% Used 2023	Difference in % Used	Standard Error: Difference in % Used	Difference in % Used vs. No Change Group	Standard Error: Difference in % Used vs. No Change Group	z Score: % Used vs. No Change Group
Added	E	*19.05 (8/42)*	*30.69 (58/189)*	*11.64%*	*7.71%*	*4.03%*	*7.77%*	*0.52*
	P	38.1 (16/42)	12.18 (19/156)	−25.92%	6.63%	−15.25%	6.66%	2.29
	Subtotal	***28.57 (24/84)***	***22.32 (77/345)***	***−6.25%***	***5.16%***	***−3.45%***	***5.19%***	***0.67***
E-preferred	E	*19.05 (4/21)*	*41.03 (1,265/3,083)*	*21.98%*	*10.76%*	*14.38%*	*10.81%*	*1.33*
	P	20.58 (1,060/5,150)	16.09 (176/1,094)	−4.49%	1.33%	6.17%	1.48%	4.17

Category of Change	Format	% Used 2019	% Used 2023	Difference in % Used	Standard Error: Difference in % Used	Difference in % Used vs. No Change Group	Standard Error: Difference in % Used vs. No Change Group	z Score: % Used vs. No Change Group
	Subtotal	**20.58 (1,064/5,171)**	**34.5 (1,441/4,177)**	**13.92%**	**0.92%**	**16.72%**	**1.08%**	**15.45**
Exception	E	27.83 (418/1,502)	42.8 (586/1,369)	14.98%	1.78%	7.37%	2.06%	3.58
	P	20.97 (342/1,631)	13.04 (76/583)	−7.93%	1.89%	2.73%	2.00%	1.37
	Subtotal	**24.26 (760/3,133)**	**33.91 (662/1,952)**	**13.92%**	**0.92%**	**12.45%**	**1.41%**	**8.81**
No change	*E*	*31.23 (1,260/4,035)*	*38.83 (1,800/4,635)*	*7.61%*	*1.03%*	*0.00%*	*1.46%*	*0.00*
	P	*25.53 (2,159/8,457)*	*14.86 (1,012/6,809)*	*−10.67%*	*0.66%*	*0.00%*	*0.93%*	*0*
	Subtotal	***27.37 (3,419/12,492)***	***24.57 (2,812/11,444)***	***−2.80%***	***0.57%***	***0.00%***	***0.80%***	***0***
Print preferred	E	*11.11 (1/9)*	*0 (0/0)*	*−11.11%*	*10.48%*	*−18.72%*	*10.53%*	*1.78*
	P	0 (0/0)	0 (0/9)	0.00%	0.00%	10.67%	0.66%	16.15
	Subtotal	***11.11 (1/9)***	***0 (0/9)***	***−11.11%***	***10.80%***	***−8.31%***	***10.81%***	***0.77***
Removed	E	21.52 (249/1,157)	41.33 (112/271)	20.26%	2.88%	12.32%	3.05%	4.03
	P	15.61 (728/4,663)	15.07 (33/219)	−0.54%	2.51%	10.12%	2.59%	3.90
	Subtotal	**16.79 (977/5,820)**	**29.59 (145/490)**	**12.80%**	**1.80%**	**15.60%**	**1.89%**	**8.27**
Removed exception	E	*24.53 (65/265)*	*34.8 (87/250)*	*10.27%*	*4.02%*	*2.66%*	*4.15%*	*0.64*
	P	*22.17 (45/203)*	*14.29 (13/91)*	*−7.88%*	*5.02%*	*2.78%*	*5.06%*	*0.55*
	Subtotal	**23.5 (110/468)**	**29.33 (100/341)**	**5.82%**	**3.12%**	**8.62%**	**3.17%**	**2.32**

Note: Rows in italics indicate no significant difference from the no change group.

Conclusion

The changes assessed in this study met the goal of reducing overall expenditures and increasing overall usage on the Libraries' main approval plan. Approval plan spending decreased by 15 percent in the 2023 dataset compared with the 2019 set, whereas the reduction in titles purchased was almost 31 percent. The average cost per title for each format did not change significantly between the two datasets; however, electronic books cost an average of twice their print counterpart, and the significant increase in electronic books purchased in the 2023 dataset offsets a more significant cost savings. Still, this reduced spending is enough to provide a more stable structure for budgeting and staff time, while the overall increase in use demonstrates better alignment with patron needs. The study demonstrates that quantitative analysis of purchases and their subsequent usage can inform changes to improve automated approval plans. Gathering and analyzing this data is time consuming but provides a big benefit in allowing libraries to successfully manage approval plans as tools to save the time of individual selectors. The most impactful categories of changes are those made to exclude areas, vastly reducing the number of titles automatically purchased; changing areas to e-preferred, resulting in a large number of ebooks that correlate to more use without impacting the titles purchased; and adding exceptions to refine the topics that trigger automatic purchases, consequently increasing use of the titles purchased.

This study includes significant variables that impact comparison of the two datasets and should be followed up with an additional analysis to continue assessing changes. Even in the absence of those variables, however, research interests, university curricula and programs, and library acquisition methods are always evolving, which requires that any approval plan be reviewed and updated periodically to ensure relevance. Possibilities for assessment of and changes to approval plans depend on the categories and options provided by the vendor.

The rise of DDA and EBA plans that prioritize electronic access and patron choice challenges the traditional approval plan. The increase in the percentage of approval titles from the T&F group in the first part of the 2023 dataset provides additional justification for the Libraries' adoption of the EBA. Moving these imprints from the approval plan to an EBA reduces costs associated with invoicing, processing, and physical space in exchange for patron access to T&F's entire catalog. Future comparisons of the use of titles provided through the EBA program with the use of those titles that would have been selected by the approval plan might provide a better understanding of the role of the traditional approval plan in the modern acquisitions' environment.

The increasing availability of ebooks and the increasing comfort of the academic community with electronic formats is a big part of the success of these changes. In the 2023 dataset, ebook purchases increased by 26 percent, including areas in which there was no change to the approval plan and areas in which the change did not directly involve a format preference. Publishers seem to be providing more books in electronic format and providing those titles more simultaneously with print releases. This publishing shift, combined with the increased usage of ebooks, points to a larger external trend and suggests that review of format preferences with shifts toward ebooks is essential for libraries seeking to improve automatic purchasing strategies of any kind.

Acknowledgments

We thank Gabby Cochran, former graduate research assistant, for compiling early-stage data and contributing to the methodology section during the initial phase of this project. We thank Tyler

Martindale, former collections data analyst, for help assembling the preliminary 2023 dataset and helping to conceptualize the comparison.

CRediT Author Contribution Statement

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Notes

1. Just-in-case is a collection development model where materials are acquired in anticipation of meeting a potential need. Described in Marilyn Deegan and Simon Tanner, "Collection Development: Just in Case, or Just in Time?" in *Digital Futures: Strategies for the Information Age* (Facet Publishing, 2013), 63–4.
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13. Because the study generally considers books actually purchased during the two time periods, and there is naturally a delay between the profiling work done by GOBI and the final registration of a purchase in Alma, these cannot be seen as definite counts of the population of books from which our selections were made.

14. Sandra De Groote and Jung Mi Scoulas, “Impact of COVID-19 on the Use of the Academic Library,” *Reference Services Review* 49, no. 3/4 (2021): 281–301, https://doi.org/10.1108/RSR-07-2021-0043; Erin Owens, Soo-yeon Hwang, Dianna Kim, Tyler Manolovitz, and Lisa Shen, “Do You Love Them Now? Use and Non-Use of Academic Ebooks a Decade Later,” *The Journal of Academic Librarianship* 49, no. 3 (2023), https://doi.org/10.1016/j.acalib.2023.102703. Groote and Scoulas (2021) found increasing reports of ebook usage through the pandemic, whereas Owens et al. (2023) noted that increased use of ebooks did not necessarily indicate an increasing preference for the format in the academic context.