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Biz of Acq-Deep Dive: Differentiated eBook Usage Between Collection Types Across Disciplines

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Biz of Acq — Deep Dive: Differentiated eBook Usage Between Collection Types Across Disciplines

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Introduction

Since the October 2011 inception of **Winthrop University's** eBook patron-driven acquisitions (PDA) program, the eBook program has matured and generated usage and expenditure data to a sufficient degree to spot trends between print and eBook preferences by discipline. Usage and expenditures for eBooks and hardcopy materials were analyzed through February 18, 2016. Published in a series of three *ATG* articles, this study examines usage and expenditure of eBooks and hardcopy materials: The first article (November 2016) described the study's setup, data strategies, and broad print and eBook usage and expenditure findings from year 2011/12 through 2014/15. The second article (December 2016-January 2017) showed expenditures and usage trends in more depth by discipline for print and eBooks from year 2011/12 through 2014/15, as well as preliminary usage data gleaned from our new integrated library system (ILS) through February 18, 2016. This third and final article is entirely focused on in-depth eBook assessment: This part of the study analyzes and visualizes cumulative and year-by-year usage data for each discipline, broken out across perpetually owned eBooks, PDA/DDA discovery titles, and eBook subscription titles. Lastly, this article offers insights for data-informed collection decisions, conclusions about all three articles' data, and considers implications for further research.

Outline of the Study

Following up on the previous two articles' presentation of four years of expenditure and usage data for print and eBooks both broadly and by discipline, this study examines discipline-specific eBook patterns and their differentiations across types of eBook collections. eBook expenditure and usage reports were obtained from the eBook aggregator for the fiscal years 2011/2012 through 2014/2015. **Expenditure data** include PDA and eBook firm order purchases, short-term-loan (STL) payments, eBook firm orders, and print book purchases broken out into 30 academic disciplines and professional fields. Because actual financial amounts could not be published, the study uses indexed values as a compromise for documenting trends and proportionality across formats and disciplines. **Usage data** include actual eBook usage broken out by perpetually owned titles, the PDA discovery pool, and the academic eBook subscription collection. The analysis reveals each discipline's relative eBook demand. Discipline-specific demand is further broken out to show differentiation in demand between the perpetually owned titles, the PDA discovery pool, and the academic eBook subscription collection.

eBook Expenditures, 2011-2015: Deep Dive by Discipline and Purchase Type

As stated in the prior two articles, actual expenditures could not be published and this article instead uses indexed values of expenditures to preserve the relative amounts between disciplines and eBook purchase types. The following chart depicts **eBook expenditures** over the four-year period examined in this study. It shows each area's percentage of total eBook expenditure year-to-year. The **top five eBook** purchasers are (1) Biology, (2) Education, (3) Political Science, (4) Psychology, and (5) Business.


YTY ebook expenditures, 2011-2015
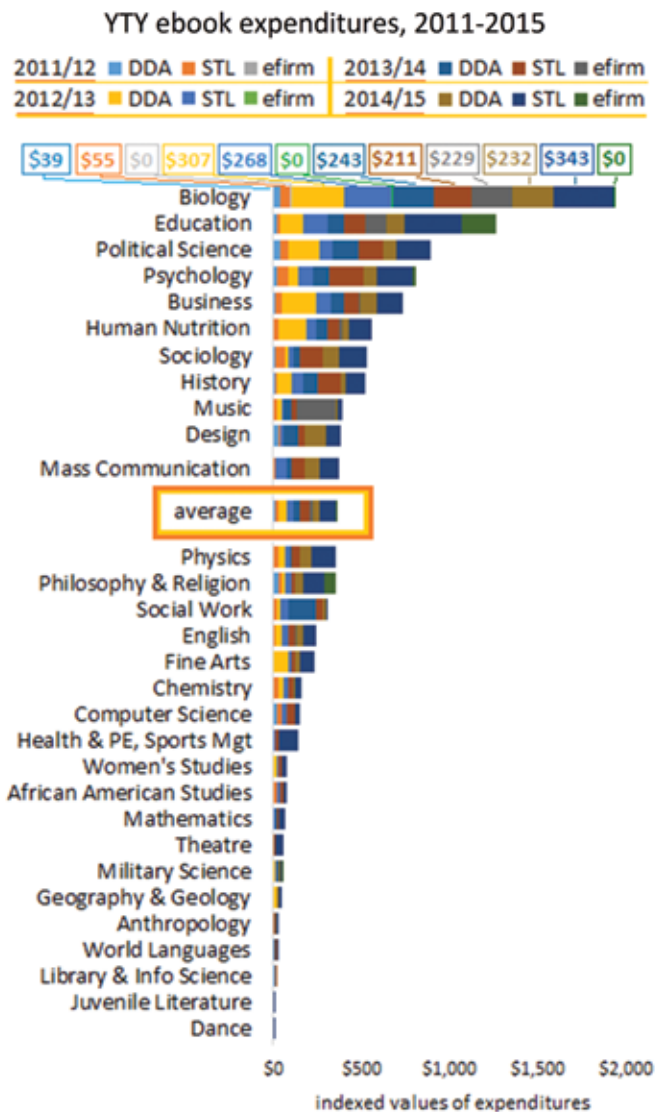
PDA Purchase, Efirm, and STL: Grazing vs. Commit-to-Buy

A detailed examination of each discipline's year-to-year payments for STL charges and PDA purchases reveals some differences between STL, PDA purchase, and efirm purchase preferences across the 30 disciplines. **STL** is often the first phase as short-term loans are activated when online use of a given eBook title crosses the threshold of duration or page numbers agreed-upon with the eBook vendor. **PDA purchase** is automatically triggered at the fourth such use of all titles after three prior short-term loans. **Efirm** is an outright firm-order purchase for eBook titles specifically selected.

Who's Grazing? Short-term loans are spread across all disciplines over the studied four-year period. Biology's **STLs** outdistanced all other areas, towering over the next-highest STL borrower (Education) by 45%. The remaining areas among the top five are (3) Psychology, (4) Political Science, and (5) Sociology. While every discipline has generated STL charges from using the eBooks in the PDA pool, not everyone's STL grazing has turned into PDA buys: Anthropology, Dance, Health & Physical Education, Juvenile Literature, and Theatre have never invoked a single PDA purchase between 2011 and 2015. While occasional efirm orders have been placed for Anthropology and Health & PE, the remaining areas of Dance, Juvenile Literature, and Theatre have remained permanent grazers.
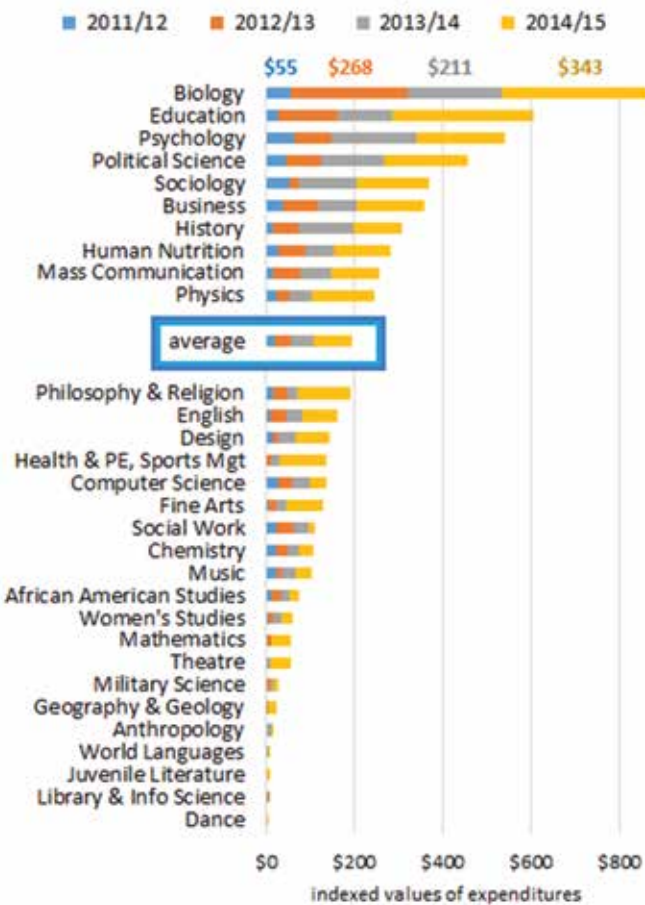

Who's Buying? The first measure of a discipline's commitment to specific eBook titles is that of PDA purchases. Whose STLs are growing into PDA purchases? The top five **PDA purchasers** are (1) Biology (also the top STL borrower), (2) Political Science (4th-highest STL borrower), (3) Business (in 6th place among STL borrowers), (4) Education (2nd-highest STL borrower), and (5) Human Nutrition (8th-highest STL borrower). Psychology, the top 3rd STL borrower, ranks 6th among PDA purchasers; Sociology, in 5th place among STL borrowers, ranks 10th among PDA purchasers. As shown in the next chart on PDA purchases, PDA purchases across the disciplines did not occur in all years.
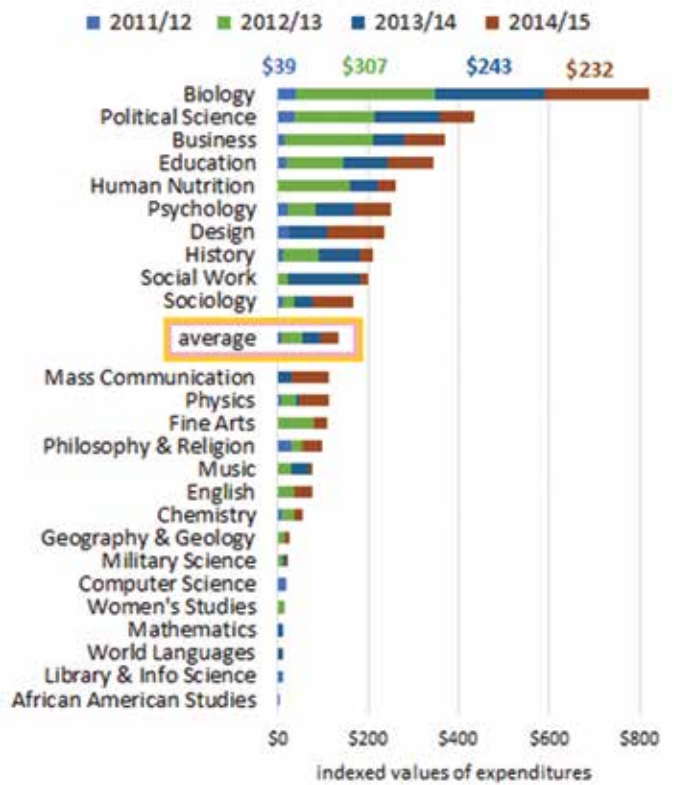
The second commit-to-buy measure is **efirm** where a given title is requested for purchase to support specific course-related reading assignments. Efirm orders have been placed for 11 of the 30 disciplines over the 2011-2015 period. These are listed and ranked in descending order: (1) Education (2nd-ranked STL borrower and 4th-ranking PDA buyer), (2) Biology (top STL borrower *and* PDA buyer), (3) Music (10th among STL borrowers and 15th among PDA purchasers), (4) Philosophy & Religion (11th place in STL and 14th for PDA), (5) Psychology (3rd-highest STL borrower and 5th-highest PDA buyer), (6) Human Nutrition (ranked 8th for STL and 5th among PDA buyers), (7) Anthropology (26th-ranking STL borrower, no PDA), (8) English (12th in STL, 16th among PDA), (9) Business, (6th-highest for STL, 3rd place for PDA) (10) Health & PE (14th in STL, no PDA), and (11) Military Science (24th in STL, 19th in PDA).
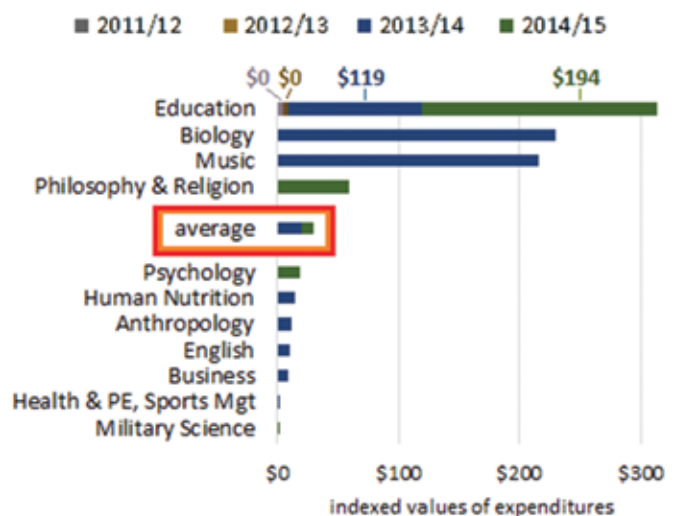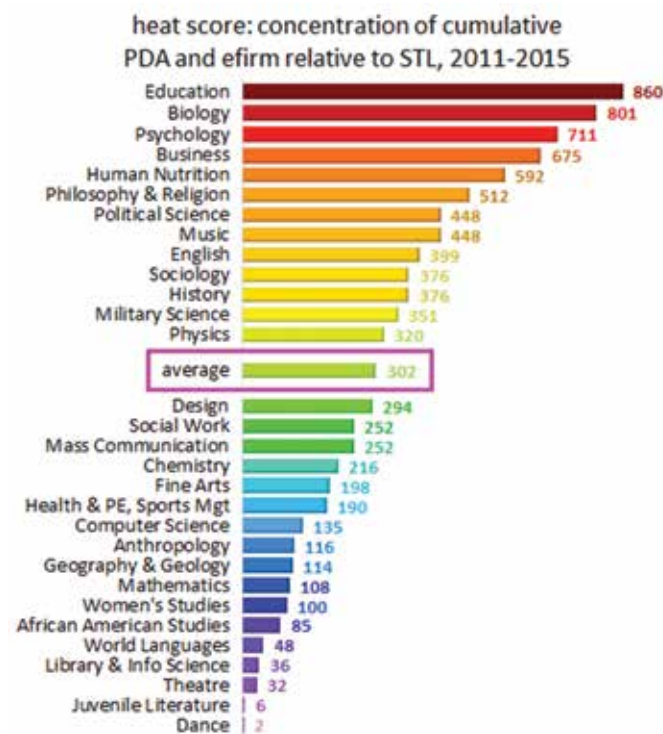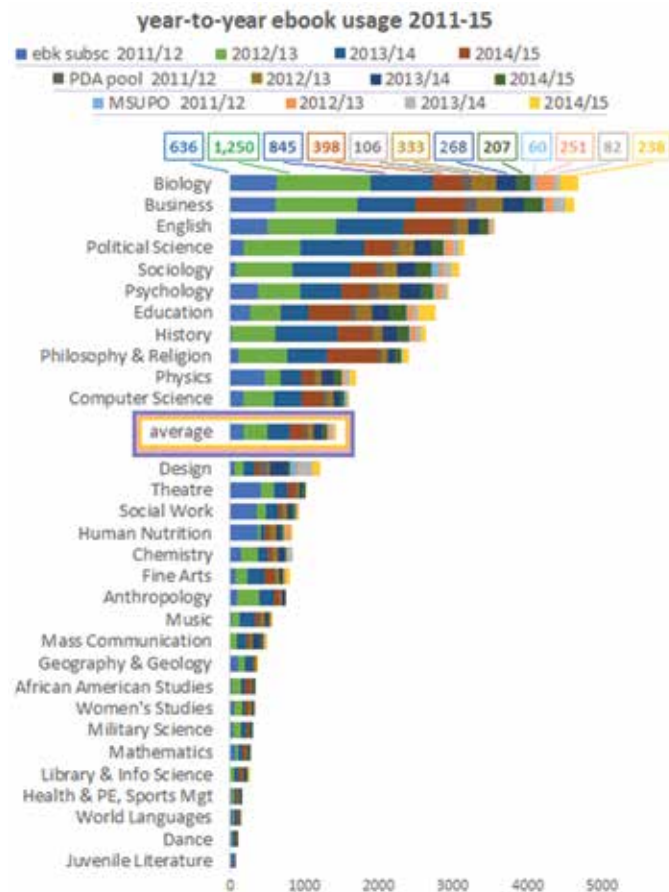
Determining disciplines most inclined toward eBook purchase: The **composite heat score** for **purchase inclination** was calculated by the equation of $x=(y_1+y_2+y_3)*(z_1+z_2+z_3)$, where x=composite heat score, y_1=number of years with STL activity, y_2=years with PDA activity, y_3=years with efirm activity, z_1=STL heat score, z_2=PDA heat score, and z_3=efirm feeder heat score. Each discipline's active years were calculated by the sum of years with STL, DDA, and efirm activity. Feeder heat scores for the expenditure types of STL, DDA, and efirm were calculated by subtracting actual rank in each expenditure type from the number 31. Rank 1 thus becomes heat score 30; zero activity during the four-year period was assigned rank 31 (thus a heat score of zero) in order to differentiate zero-activity disciplines from the lowest but above-zero-activity disciplines by multiplying the sum of each discipline's by the sum of their respective STL, DDA and efirm heat scores.

The strongest purchasers, as opposed to STL grazers, were (1) Education, (2) Biology), (3) Psychology, (4) Business, and (5) Human Nutrition.

heat score: concentration of cumulative
PDA and efirm relative to STL, 2011-2015

Discipline	Score
Education	860
Biology	801
Psychology	711
Business	675
Human Nutrition	592
Philosophy & Religion	512
Political Science	448
Music	448
English	399
Sociology	376
History	376
Military Science	351
Physics	320
average	**302**
Design	294
Social Work	252
Mass Communication	252
Chemistry	216
Fine Arts	198
Health & PE, Sports Mgt	190
Computer Science	135
Anthropology	116
Geography & Geology	114
Mathematics	108
Women's Studies	100
African American Studies	85
World Languages	48
Library & Info Science	36
Theatre	32
Juvenile Literature	6
Dance	2

eBook Usage, 2011-2015: Deep Dive by Discipline and Purchase Type

The chart below shows year-to-year eBook usage by discipline and type of eBook collection purchase within each discipline. The top users of all eBooks were (1) Biology (also the top eBook purchaser), followed closely by (2) Business (in 5th place as eBook purchaser), (3) English (placed 15th among eBook purchasers), (4) Political Science (3rd -ranking eBook purchaser), and (5) Sociology (in 7th place among eBook purchasers).

year-to-year ebook usage 2011-15

Legend:
- ebk subsc 2011/12, 2012/13, 2013/14, 2014/15
- PDA pool 2011/12, 2012/13, 2013/14, 2014/15
- MSUPO 2011/12, 2012/13, 2013/14, 2014/15

636 | 1,250 | 845 | 398 | 106 | 333 | 268 | 207 | 60 | 251 | 82 | 236

Disciplines (top to bottom):
Biology, Business, English, Political Science, Sociology, Psychology, Education, History, Philosophy & Religion, Physics, Computer Science, **average**, Design, Theatre, Social Work, Human Nutrition, Chemistry, Fine Arts, Anthropology, Music, Mass Communication, Geography & Geology, African American Studies, Women's Studies, Military Science, Mathematics, Library & Info Science, Health & PE, Sports Mgt, World Languages, Dance, Juvenile Literature

(x-axis: 0, 1000, 2000, 3000, 4000, 5000)

Intensity of Use: Pageviews by Discipline

Looking deeper than the surface measure of total eBook use, pageviews illuminate each discipline's intensity of use. The top five disciplines by **total pageviews encompassing all eBook types** from 2011 to 2015 are (1) Business (75,598 total pageviews), (2) Biology (66,916), (3) Sociology (54,451), (4) History (49,903), and (5) Education (48,732).

Cutting the Cord: Learning to Live Without Comprehensive Journal Packages — Presented by **David Hellman** (San Francisco State University)

Reported by: **Amy Lewontin** (Northeastern University) <a.lewontin@neu.edu>

Hellman (also is an Associate University Librarian) explained that his library is a mid- to large-sized library with well over a million volumes. He said he was talking in this program about ending a relationship with a particular journal publisher for their "big deal offering" and that he did want to keep the publisher's name anonymous. He also noted that he had no particular vendetta with the publisher, but the issues were what he called "systemic," and not unique to this publisher. He talked about why libraries initially jumped on board with the "big deal"; mainly because we saw them doing something great for us, by eliminating the print journal, and at the time that held a very big appeal for libraries. Also, the ubiquitous nature of e-journal access and good usage were things that were heralded. But later, as prices rose, libraries felt trapped by the big deal.

SFSU had the majority of its big deals managed by the CFS office and the particular package under discussion, which had about 1400 titles, had a number of problems and was overly complicated and time
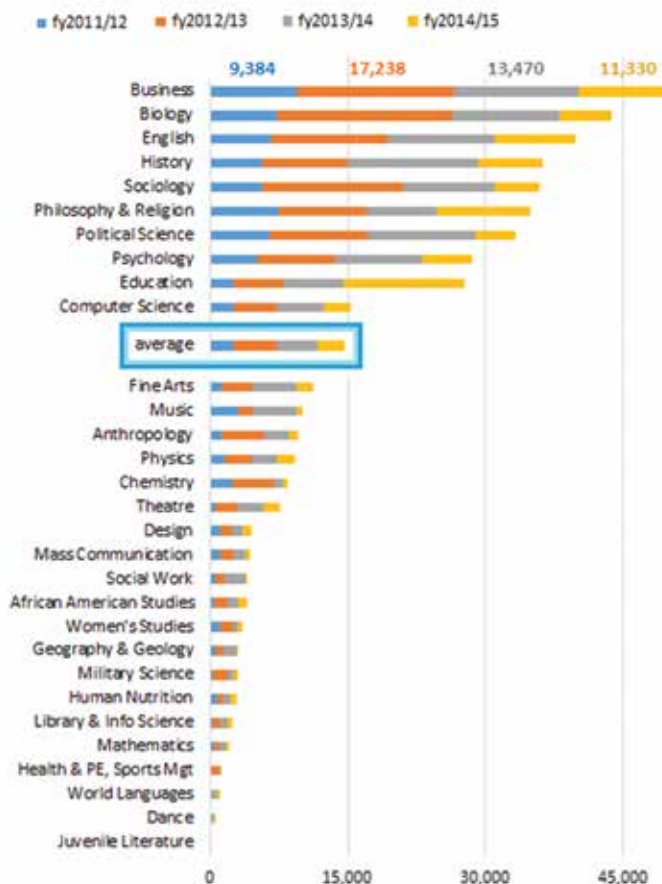
Pageviews: all ebook types, 2011-2015
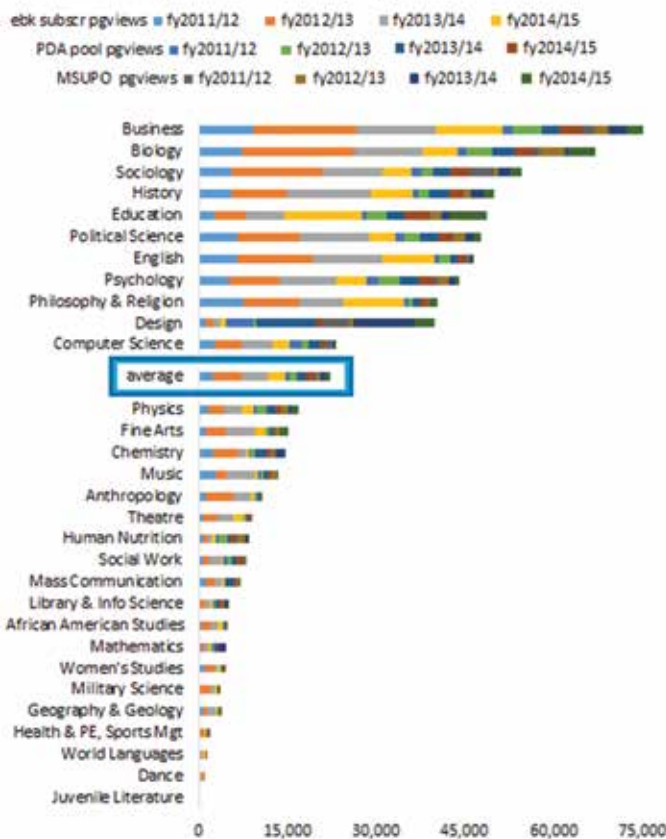
The top five **subscription eBook pageviews** occurred in (1) Business, (2) Biology, (3) English, (4) History, and (5) Sociology.

Pageviews subscr. ebooks, 2011-2015

The top five **pageviews** in the **PDA pool** occurred in (1) Design, (2) Business, (3) Biology, (4) Education, and (5) Psychology.

consuming, when renewal time came in 2014. **SFSU** did its own deal with the publisher. **Hellman** explained that libraries needed to think about "cutting the cord" of the big journal deals and to give themselves time to think things over. He understood that discovery services had created the way for our users to get quick access and they were concerned with the impact on users. They considered the good things going for them, that their library did have access to purchased back files, and they decided, after discussions between liaisons and faculty, to cut the entire package under discussion. They made a lot of use of their counter reports, current and archival, and looked at a lot of overlap reports from all of their databases. After their analysis, they saw that the package in question was significantly more expensive on a cost per use basis than other publishers. They did not use impact factor. "If a journal is not used, regardless of impact factor, it is not used." Many of the titles were duplicated in aggregated databases, but there were still embargoes for some of these titles.

Once the decision was made, they needed to begin informing their stakeholders, "even if they refuse to listen." The library at **SFSU** created a template for library liaisons to distribute to their faculty, based on the programs they worked with. They also put out a memo on their website and the CSU Academic Senate put out a resolution supporting the decision to end the package. The library made use of Get It Now, via their ILL office.

The response to cutting the cord? According to **Hellman**, very few complaints were made. He made some interesting suggestions, about creating a new model for peer review with a potential for social media. Also, he suggested that we should be taking back ownership over our scholarship and educating faculty on their copyrights.

Do We Approve? New Models for Assessing Approval Plans —
Presented by **Daniel Dollar** (Yale University Library);
Julie Linden (Yale University Library); **Sarah Tudesco**
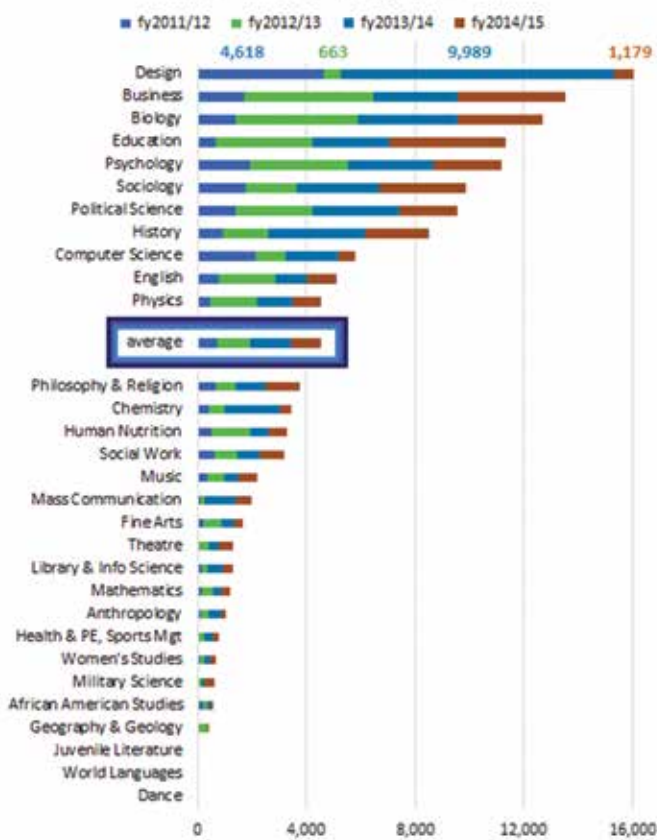(Yale University Library)

*NOTE: **Julie Linden** and **Sarah Tudesco** did not*
present in this session.

Reported by: **Crystal Hampson** (University of Saskatchewan)
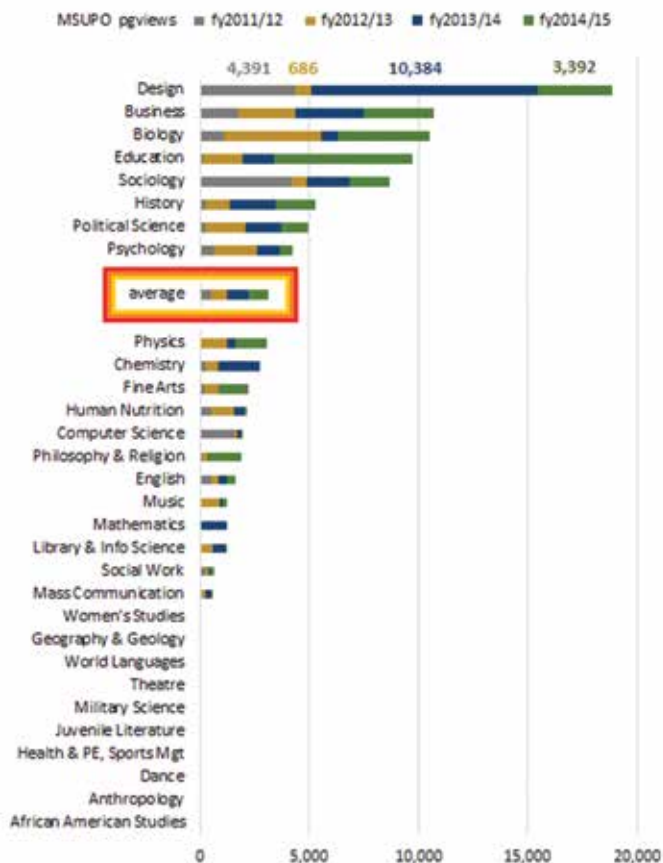<crystal.hampson@usask.ca>

Dollar was the sole presenter at this session, which discussed a collaboration between himself, **Linden**, and **Tudesco** to assess **Yale's** approval plan purchases. **Yale's** multi-million dollar monographs budget is spent primarily via approval plans. The library's monographs usage has been dropping, both for approval plan titles and for firm orders. Circulation among graduate students fell much less than for other users. Circulation rates were much higher for medical titles. The medical titles are mostly electronic and are not purchased by approval plans, which

Pageviews: PDA pool, 2011-2015

Pageviews: owned ebooks, 2011-2015

The top five **pageviews** in the **perpetually owned eBooks** (shown as MSUPO, for multi/single-user perpetual ownership) are (1) Design, (2) Business, (3) Biology, (4) Education, and (5) Sociology. Ten areas revealed no pageviews at all in the small perpetually owned collection: African American Studies, Anthropology, Dance, Health & Physical Education / Sports Management, Juvenile Literature, Military Science, Theatre, and World Languages.

### The Spiky World of Usage Depth: Pageviews per Title Used, by eBook Collection Type

The above section's pageviews are skewed by the large size of the eBook subscription collection compared to the smaller PDA pool and even smaller collection of perpetually owned eBooks. The chart below therefore showcases year-to-year pageviews per unique title used by each discipline during each year. The perpetually owned eBook titles (shown as MSUPO in the chart) were used in most depth, and the highest use of all occurred in Design during 2011/12 at 2,196 pageviews per unique title used and in 2013/14 at 2,596 pageviews per unique title used.

are focused on print titles. How approval plans meet local needs versus support ILL to other libraries will also need to be considered. Purchase requests are mostly in the humanities areas and are often for very new titles, including pre-publication requests.

Open Access and Open Data, Rolling with the Times: Case Studies of Librarians Helping Authors and Institutions Comply
— Presented by **Darla Henderson** (Moderator, American Chemical Society); **Erja Kajosalo** (Massachusetts Institute of Technology); **Amy Hodge** (Stanford University Libraries); **Mira Waller** (North Carolina State University Libraries)

Reported by: **Stacy Stanislaw** (Library Communications Manager, Taylor & Francis Group)
<stacy.stanislaw@taylorandfrancis.com>
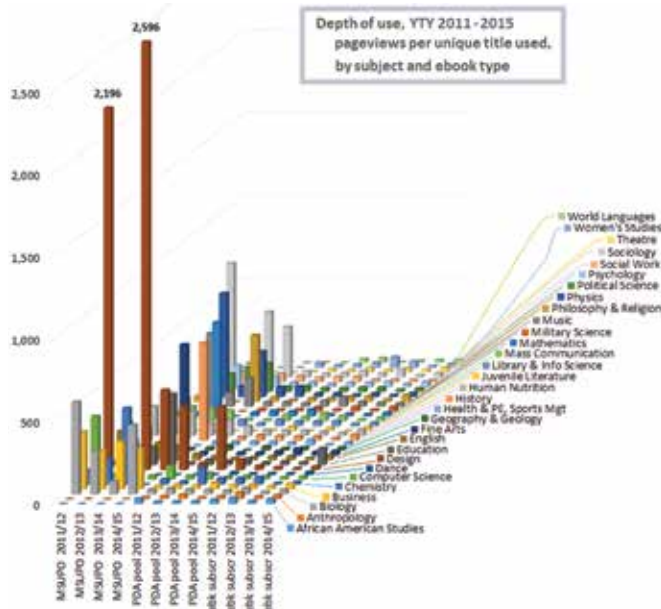
Toward Data-Informed Collection Decisions

Observations: In the four-year period from 2011/12 through 2014/15, print and eBook expenditures and usage evolved considerably. **Expenditures** are the highest for (1) Biology, (2) Education, (3) Political Science, (4) Psychology, and (5) Business. Conversely, the top five likeliest PDA or efirm-order purchasers are (1) Education, (2) Biology, (3) Psychology, (4) Business, and (5) Human Nutrition. **Usage varies:** The top five readers of *eBook titles overall* are (1) Biology, (2) Business, (3) English, (4) Political Science, and (5) Sociology. Actual intensity of use, as measured by pageviews, correlate with these programs' growing hybrid and online courses and graduate programs: The top page-viewers across *all eBook collections* are: (1) Business, (2) Biology, (3) Sociology, (4) History, and (5) Education. Conversely, the *PDA discovery pool's* top five page-viewers are (1) Design, (2) Business, (3) Biology, (4) Education, and (5) Psychology. In the *perpetually owned eBooks*, the most pageviews were observed in (1) Design, (2) Business, (3) Biology, (4) Education, and (5) Sociology.

Conclusions: Extensive and growing eBook usage varies between the subscription collection, PDA discovery pool, and perpetually owned titles. While the subscription collection's wide use across all topics reflects the broad range of eBooks contained therein, the PDA discovery and perpetually owned titles' heaviest usage by Design reflects that these PDA-centered collections supply the bulk of the technical coverage for building materials & codes, construction, computer graphics and design software. These titles also meet the needs of Design students with extensive studio obligations and graduate students who work. These areas' high usage rates in Business, Biology, Education, Sociology, History, and Psychology reflect an effective PDA profile delivering relevant titles which are used extensively and repeatedly by graduate students and working adults taking hybrid and online courses.

Implications for future research: These findings of all three parts of this study have raised both philosophical and practical implications. The data gleaned from this study inform individual work with academic departments' library liaisons by area, refining allocation formulas, and monitoring the effectiveness of the PDA eBook profile. Library decisions on selection, weeding, and retention by subject area are also supported by the print observations reported in this study's previous two articles. **Working with academic departments:** As hardcopy ordering has declined in several disciplines (as evidenced in this study's previous articles), department-specific tracking of each discipline's yearly usage and expenditure data and trends for print and eBooks will inform individual conversations with library liaisons and their in-library counterparts for future-oriented strategies. Further goals include ingesting student-enrollment numbers and calculating print and eBook usage per student and faculty FTE, to further refine understanding of each area's usage behaviors. Rationale: Nuanced campus data, including overall program-enrollment trajectories, enrollment by course delivery (in-class, hybrid, fully online) within each program, demographic data (traditional full-time vs. working adults living off-campus enrolled part-time or online students), undergraduate and graduate enrollments, are typically gathered by campus assessment or institutional research offices. Such enrollment data illuminate library-materials purchase and usage data by providing decision-making context for anticipating future demand and further rebalancing print and e-allocations accordingly. **Refining allocation formulas:** Tracking usage trends will be enlisted in calculating appropriate print and eBook allocations for each discipline, in a manner sensitive to the data-evidenced reliance on particular formats and year-to-year changes in discipline-specific usage and expenditure patterns. Together with student enrollment and faculty FTE, these trends will be incorporated in the mathematical model designed to guide allocations. Especially for libraries with fixed or declining materials budgets, understanding of usage trends can help inform decisions on discipline-specific focused injection of limited funds into formats best suited to meet the respective areas' needs. **Library selection, weeding, retention decisions:** The usage data and trends also support decisions on print selection, weeding, and retention. For example, areas with declining hardcopy use in tandem with rising eBook use could become candidates for withdrawal of obsolete or replacing damaged materials with eBook editions. Conversely, areas with continually high print use signify continued need for current selection as well as more generous retention paired with gentler weeding approaches. So far, Winthrop's approach has refrained from injecting format preferences in the collection management policy (beyond the general principle of best fit for each discipline), so as to continue to provide philosophical guidance flexible enough to adapt to evolving needs. **PDA profile monitoring:** While the data of high pageviews in the PDA pool and perpetually owned collections suggest a highly effective PDA profile, year-to-year trends will be observed and selections adjusted as needed in order to maximize continued relevance. In addition to continuing to gather user input and feedback, data tracking the trends for the extent, concentration, intensity, and depth of eBook usage will be monitored for growing and shifting usage as indicators for profile-revamping needs. **Deeper trends analysis:** These findings warrant further analysis of relationships between enrollment trends for traditional and online courses by discipline, usage and expenditure data as observed in this study, evolving publication prices by discipline, formats, and user licenses, and formally ascertained user preferences. Together these data and their interpretation will enrich libraries' efforts to anticipate user needs and meaningfully allocate funds in support of these evolving needs. 🌳

The panelists discussed the roles they play in promoting and facilitating Open Access at their institutions. **Hodge** spoke about key challenges Stanford University has around open data and their institutional repository, namely that it can be difficult to add data and then get it out of the repository later on. In response, **Stanford** is exploring APIs that will allow for "easier flow of content and metadata both into and out of the repository." **Waller** spoke about two programs the **NCSU Libraries** launched to raise the research profile of their faculty: Summer of Open Science and the Research Data Committee. The goal of Summer of Open Science was to introduce the University to the core concepts of Open Science, while the Research Data Committee was developed to help position the library as a partner in the management and curation of research data across the entire campus. Lastly, **Kajosalo** spoke about **MIT's** newly combined collections and scholarly communications strategy, which "unites the aims of transforming communications for the digital age with innovation and sustainable development of **MIT** collections" and promote Open Access publishing and the **MIT** institutional repository. The session ended with questions from the audience.

Reimagining the Library: Relationships between Library Collections, Space, and Public Services — Presented by **Julia Gelfand** (University of California Irvine); **Charla Batey** (University of California, Irvine Libraries); **Theo Kemperman** (Bibliotheek Rotterdam)

Reported by: **Carin Graves** (Michigan State University)
<gravesc@msu.edu>

Gelfand started the session with some background and opening questions. These questions included: Should we save the stacks? What will the library of the future look like? What services will it provide? These questions centered the session around a concern for the use of space and place in the library.

Batey followed her colleague by introducing the changes underway at the **University of California Irvine Library**. Particularly interesting was the dedicated **UCI** "Newsroom" webpage that featured events and information about the libraries. **Batey** also shared some tips on maintaining a successful promotional campaign and open communication with the public.