

Background

- Kent State University Libraries (KSUL) acquires ebooks through a variety of purchase models.
- A collaborative team with members from Kent State University Libraries (KSUL), the Kent State School of Library and Information Science, and the Universitat de Barcelona started to conduct studies in the growing area of ebooks acquisition and use in academic libraries.
- After some discussion and literature review, it was decided that the team would conduct three separate studies that focus on different aspects of ebooks in academic libraries.
- This poster focuses on the comparison of the acquisition and use of print books and DDA ebooks to address some of the key questions about the DDA purchase model:
 - How does DDA align the library's collection with current user requirements?
 - Does DDA lead to a more active use of the library's book collection?
 - Is DDA cost-effective as an acquisition model?
 - What issues are associated with DDA and how may these be addressed?

Methodology

- Both **acquisition** and **circulation/use** data were gathered to compare print books and DDA ebooks
- In order to reduce the number of variables we
 - 1) elected to use **same size data sets** for print books and ebooks (the same number of ebooks as print books in each set), and
 - 2) examined use data for the **time span** where all of the books and ebooks in each set were available for use. Two time periods were designated, the first extended through the DDA pilot, that ran from January 2012 through June 30th 2012, and the second spanned the entire 2012 calendar year.
- Ebook sample and data sources**
 - First DDA discovery load as of Jan 3, 2012
 - YBP DDA discovery records for the same time period
 - Triggered/purchased ebooks during the pilot Jan-June 2012 in the sample: 456
- Ebook acquisition: ebrary triggered ebook reports
- Ebook usage: ebrary title reports

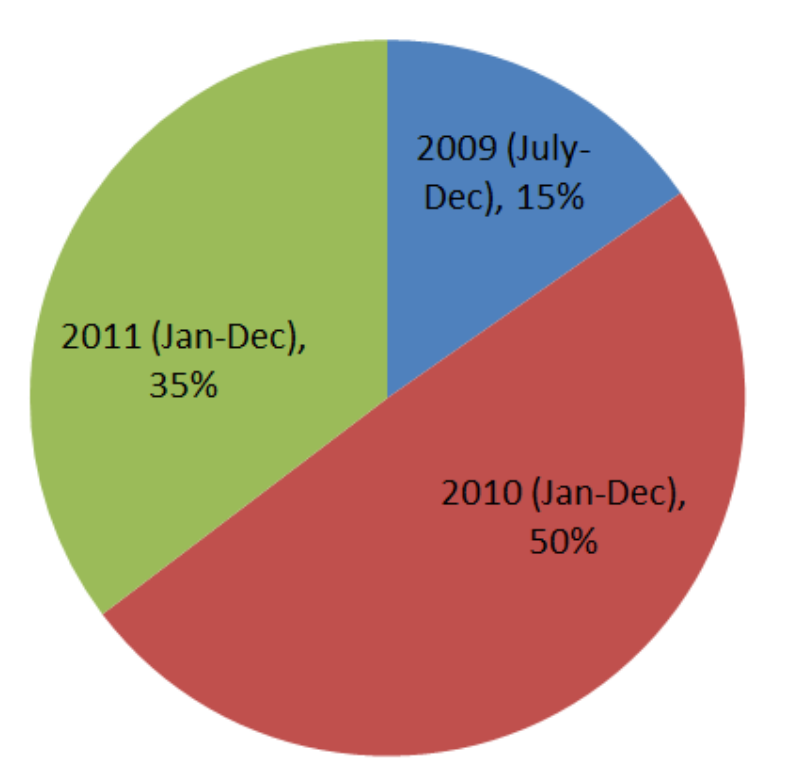
ebook sample: 22,018

Print book sample and data sources

- Bibliographic and item records
- Acquisition and order records
- Circulation data

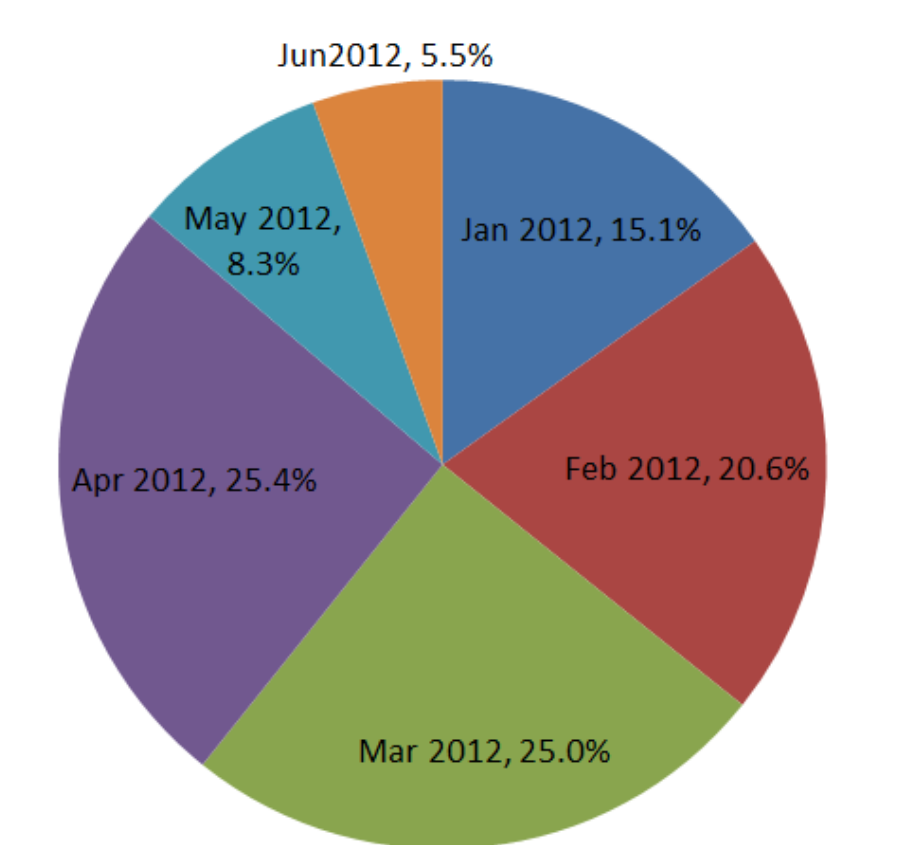
Print book sample: 20,030 items

Percent of Print Books Purchased by Year



| Year | Number of items | Percent |
|-----------------|-----------------|---------|
| 2009 (July-Dec) | 3,064 | 15% |
| 2010 (Jan-Dec) | 9,891 | 50% |
| 2011 (Jan-Dec) | 7,075 | 35% |
| Total | 20,030 | 100% |

Percent of E-Books Purchased by Month



| Trigger Date by Month | Frequency | Percent |
|-----------------------|-----------|---------|
| Jan 2012 | 69 | 15.1% |
| Feb 2012 | 94 | 20.6% |
| Mar 2012 | 114 | 25.0% |
| Apr 2012 | 116 | 25.4% |
| May 2012 | 38 | 8.3% |
| Jun2012 | 25 | 5.5% |
| Total | 456 | 100.0% |

Results

1. How does DDA align the library's collection with current user requirements?

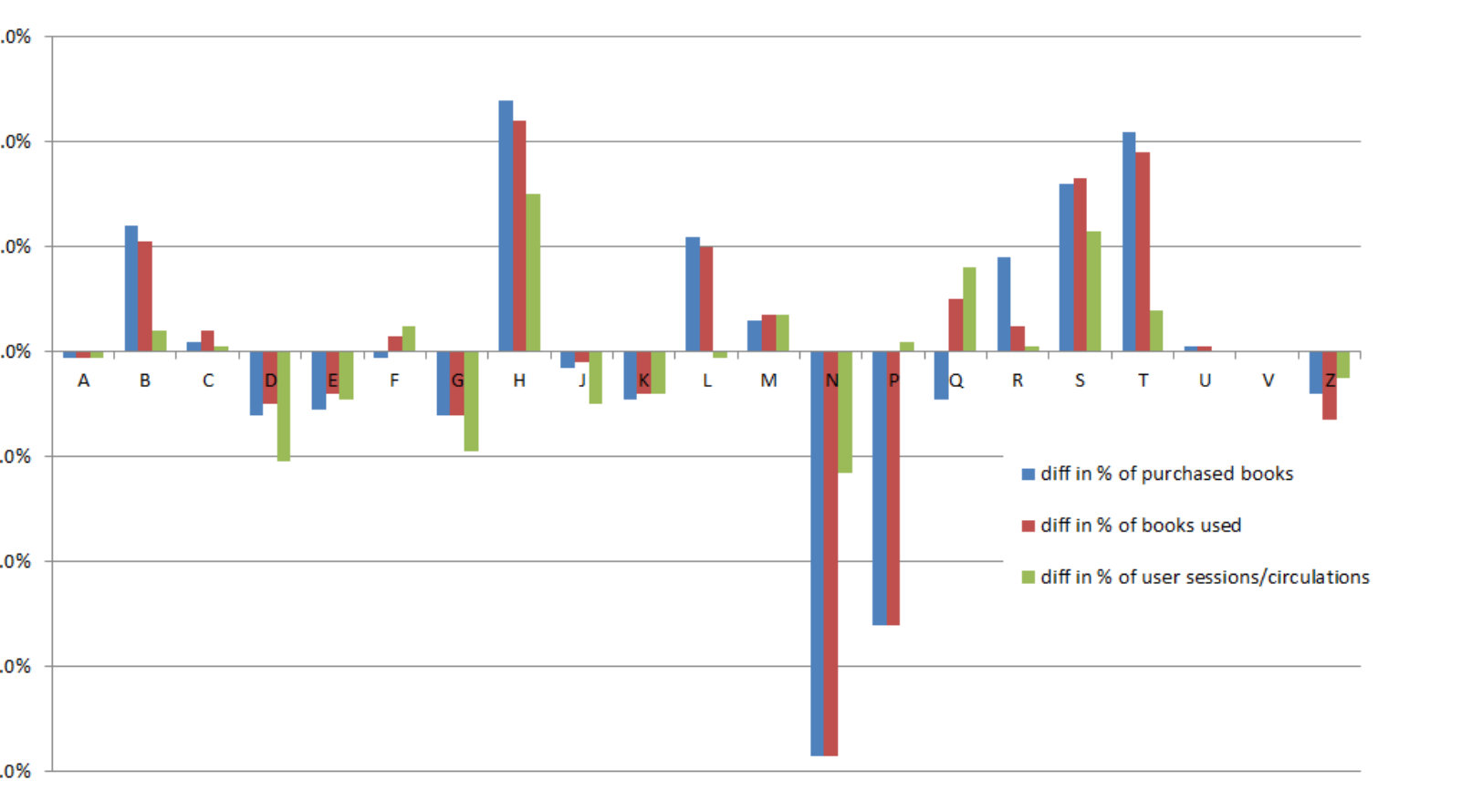
TABLE 1 DDA Triggered Ebook Acquisition and Use by Subject

| LCC Subject Area | DDA triggered ebook purchases during Jan-Jun, 2012 | | DDA ebook user sessions during Jan-Dec, 2012 | | Difference between user session % and % of ebooks |
|---|--|--------|--|--------|---|
| | # of books | % | # of user sessions | % | |
| A - GENERAL WORKS | 0 | 0.0% | 0 | 0.0% | 0.0% |
| B - PHILOSOPHY, PSYCHOLOGY, RELIGION | 38 | 8.3% | 163 | 6.6% | -1.7% |
| C - AUXILIARY SCIENCES OF HISTORY | 4 | 0.9% | 15 | 0.6% | -0.3% |
| D - WORLD HISTORY AND HISTORY OF EUROPE | 15 | 3.3% | 42 | 1.7% | -1.6% |
| E - HISTORY OF THE AMERICAS | 9 | 2.0% | 40 | 1.6% | -0.4% |
| F - HISTORY OF THE AMERICAS | 7 | 1.5% | 42 | 1.7% | 0.2% |
| G - GEOGRAPHY, ANTHROPOLOGY, RECREATION | 16 | 3.5% | 65 | 2.6% | -0.9% |
| H - SOCIAL SCIENCES | 94 | 20.6% | 483 | 19.4% | -1.2% |
| J - POLITICAL SCIENCE | 12 | 2.6% | 42 | 1.7% | -0.9% |
| K - LAW | 3 | 0.7% | 14 | 0.6% | -0.1% |
| L - EDUCATION | 27 | 5.9% | 100 | 4.0% | -1.9% |
| M - MUSIC AND BOOKS ON MUSIC | 10 | 2.2% | 52 | 2.1% | -0.1% |
| N - FINE ARTS | 10 | 2.2% | 151 | 6.1% | 3.9% |
| P - LANGUAGE AND LITERATURE | 73 | 16.0% | 330 | 13.3% | -2.7% |
| Q - SCIENCE | 43 | 9.4% | 225 | 9.1% | -0.3% |
| R - MEDICINE | 35 | 7.7% | 257 | 10.3% | 2.6% |
| S - AGRICULTURE | 17 | 3.7% | 67 | 2.7% | -1.0% |
| T - TECHNOLOGY | 37 | 8.1% | 146 | 5.9% | -2.2% |
| U - MILITARY SCIENCE | 2 | 0.4% | 6 | 0.2% | -0.2% |
| V - NAVAL SCIENCE | 0 | 0.0% | 0 | 0.0% | 0.0% |
| Z - BIBLIOGRAPHY, LIBRARY SCIENCE | 4 | 0.9% | 44 | 1.8% | 0.9% |
| TOTAL | 456 | 100.0% | 2,484 | 100.0% | |

TABLE 3 Print Book Acquisition and Use by Subject

| LCC | Print books purchased as of Jan 1, 2012 | | Print books used from print books were added to collection Dec 2012 | | Cumulative use from print books were added to collection Dec 2012 | | |
|---|---|----------------------|---|----------------------|---|----------------|--------|
| | # of books | % of total purchased | # of books | % of total purchased | # of books used | % of total use | |
| A - GENERAL WORKS | 20 | 0.1% | 13 | 65.0% | 0.1% | 76 | 0.1% |
| B - PHILOSOPHY, PSYCHOLOGY, RELIGION | 1,174 | 5.9% | 780 | 66.3% | 6.2% | 4,152 | 6.2% |
| C - AUXILIARY SCIENCES OF HISTORY | 133 | 0.7% | 66 | 49.6% | 0.5% | 327 | 0.5% |
| D - WORLD HISTORY AND HISTORY OF EUROPE | 907 | 4.5% | 540 | 59.3% | 4.3% | 2,570 | 3.8% |
| E - HISTORY OF THE AMERICAS | 624 | 3.1% | 354 | 56.7% | 2.8% | 1,678 | 2.5% |
| F - HISTORY OF THE AMERICAS | 329 | 1.6% | 155 | 47.1% | 1.2% | 782 | 1.2% |
| G - GEOGRAPHY, ANTHROPOLOGY, RECREATION | 940 | 4.7% | 588 | 62.6% | 4.7% | 3,002 | 4.5% |
| H - SOCIAL SCIENCES | 3,162 | 15.8% | 2,035 | 64.4% | 16.2% | 11,041 | 16.4% |
| J - POLITICAL SCIENCE | 571 | 2.9% | 332 | 58.0% | 2.8% | 1,844 | 2.7% |
| K - LAW | 329 | 1.6% | 190 | 57.8% | 1.5% | 960 | 1.4% |
| L - EDUCATION | 748 | 3.7% | 489 | 65.4% | 3.9% | 2,741 | 4.1% |
| M - MUSIC AND BOOKS ON MUSIC | 326 | 1.6% | 190 | 58.3% | 1.5% | 966 | 1.4% |
| N - FINE ARTS | 1,980 | 9.9% | 1,246 | 62.9% | 9.9% | 5,620 | 8.4% |
| P - LANGUAGE AND LITERATURE | 4,244 | 21.2% | 2,680 | 62.9% | 21.2% | 14,188 | 21.1% |
| Q - SCIENCE | 2,073 | 10.3% | 1,051 | 50.7% | 8.4% | 5,043 | 7.5% |
| R - MEDICINE | 1,172 | 5.9% | 904 | 77.1% | 7.2% | 6,849 | 10.2% |
| S - AGRICULTURE | 100 | 0.5% | 54 | 54.0% | 0.4% | 253 | 0.4% |
| T - TECHNOLOGY | 780 | 3.9% | 344 | 44.1% | 3.4% | 3,403 | 5.1% |
| U - MILITARY SCIENCE | 57 | 0.3% | 35 | 61.4% | 0.3% | 153 | 0.2% |
| V - NAVAL SCIENCE | 4 | 0.0% | 4 | 100.0% | 0.0% | 33 | 0.0% |
| Z - BIBLIOGRAPHY, LIBRARY SCIENCE | 334 | 1.7% | 272 | 81.4% | 2.2% | 1,370 | 2.3% |
| Unknown | 8 | 0.0% | 0 | 0.0% | 0.0% | 0 | 0.0% |
| TOTAL/OVERALL | 20,030 | 100.0% | 12,524 | 62.5% | 100.0% | 61,178 | 100.0% |

FIGURE 3. Difference in subject acquisition and use between DDA ebooks and print books.



3. Is DDA cost-effective as an acquisition model?

TABLE 7 Cost Measures of Print Books and DDA Ebooks

| Measures | Print | DDA ebooks |
|--|--------------------------------|----------------------------|
| # of books purchased | 20,030 | 456 |
| Total purchase | \$1,192,300 | \$44,926 |
| Average book price | \$59.53 | \$98.52 |
| Total use | | |
| Print book checkouts & renewals | 67,252 | |
| User sessions of DDA triggered ebooks during pilot | | 1,541 |
| User sessions of DDA discovery pool during pilot | | 2,534 |
| User sessions of DDA triggered ebooks within a year | | 2,484 |
| Unit cost per use | | |
| Cost per print book use in 1-2.5 years in collection | \$17.73 (\$1,192,300 / 67,252) | |
| Cost per user session of DDA triggered ebooks during pilot | | \$29.15 (\$44,926 / 1,541) |
| Cost per user session of DDA discovery pool during pilot | | \$17.73 (\$44,926 / 2,534) |
| Cost per user session of triggered ebooks in a year | | \$18.09 (\$44,926 / 2,484) |

TABLE 2 Use of Ebooks in the DDA Discovery Pool by Subject

| LCC | ebooks in DDA discovery pool during Jan-Dec, 2012 | | | User sessions of ebooks in DDA discovery pool during Jan-Dec, 2012 | | |
|---|---|-------------------|-----------------------------|--|--------------------------|-----------------------------|
| | # of books | % discover y pool | Difference from % purchased | # of user sessions | % in total user sessions | Difference from % purchased |
| A - GENERAL WORKS | 4 | 0.2% | -0.2% | 5 | 0.1% | 0.1% |
| B - PHILOSOPHY, PSYCHOLOGY, RELIGION | 189 | 10.5% | 2.3% | 453 | 8.9% | 2.3% |
| C - AUXILIARY SCIENCES OF HISTORY | 9 | 0.5% | -0.4% | 26 | 0.5% | -0.1% |
| D - WORLD HISTORY AND HISTORY OF EUROPE | 80 | 4.5% | 1.2% | 162 | 3.2% | 1.5% |
| E - HISTORY OF THE AMERICAS | 49 | 2.7% | 0.7% | 117 | 2.3% | 0.7% |
| F - HISTORY OF THE AMERICAS | 29 | 1.6% | 0.1% | 88 | 1.7% | 0.0% |
| G - GEOGRAPHY, ANTHROPOLOGY, RECREATION | 66 | 3.7% | 0.2% | 166 | 3.2% | 0.6% |
| H - SOCIAL SCIENCES | 367 | 20.5% | -2.2% | 992 | 19.4% | -0.0% |
| J - POLITICAL SCIENCE | 81 | 4.5% | 1.9% | 154 | 3.0% | 1.3% |
| K - LAW | 10 | 0.6% | -0.1% | 36 | 0.7% | 0.1% |
| L - EDUCATION | 104 | 5.8% | -0.1% | 235 | 4.6% | 0.6% |
| M - MUSIC AND BOOKS ON MUSIC | 55 | 3.1% | 0.9% | 145 | 2.8% | 0.7% |
| N - FINE ARTS | 58 | 3.2% | -0.1% | 219 | 4.3% | -1.8% |
| P - LANGUAGE AND LITERATURE | 281 | 15.7% | -0.4% | 980 | 19.1% | -2.2% |
| Q - SCIENCE | 160 | 8.9% | -0.5% | 455 | 8.9% | -0.2% |
| R - MEDICINE | 96 | 5.4% | 2.4% | 367 | 7.2% | 3.1% |
| S - AGRICULTURE | 32 | 1.8% | -1.9% | 95 | 1.9% | -0.8% |
| T - TECHNOLOGY | 121 | 6.7% | -1.4% | 323 | 6.3% | 0.4% |
| U - MILITARY SCIENCE | 10 | 0.6% | 0.2% | 33 | 0.6% | 0.4% |
| V - NAVAL SCIENCE | 0 | 0.0% | 0.0% | 0 | 0.0% | 0.0% |
| Z - BIBLIOGRAPHY, LIBRARY SCIENCE | 14 | 0.8% | -0.1% | 70 | 1.4% | -0.4% |
| TOTAL | 1,795 | 100.0% | | 5,121 | 100.0% | |

FIGURE 1. DDA ebook acquisition and use by subject.

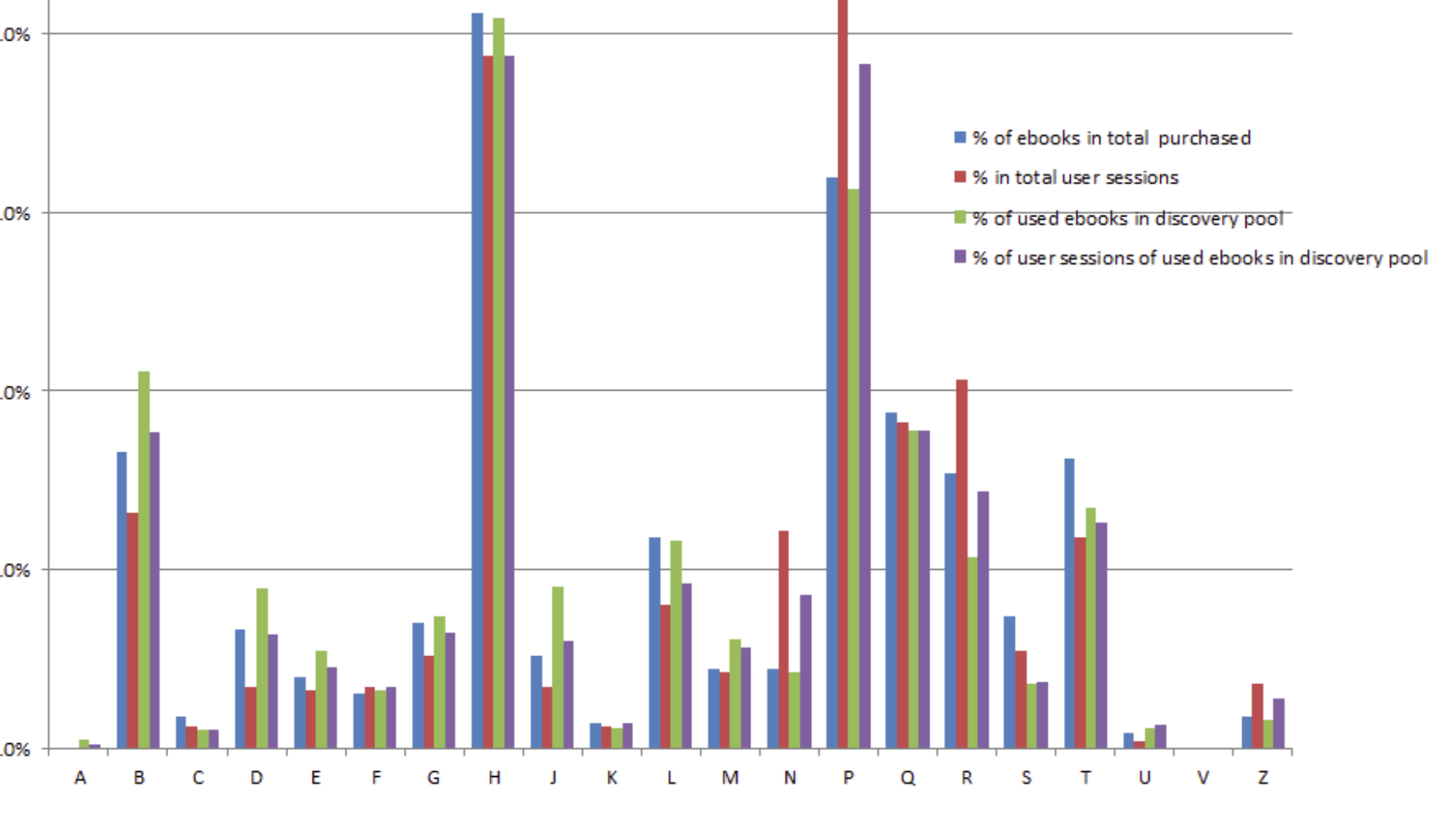
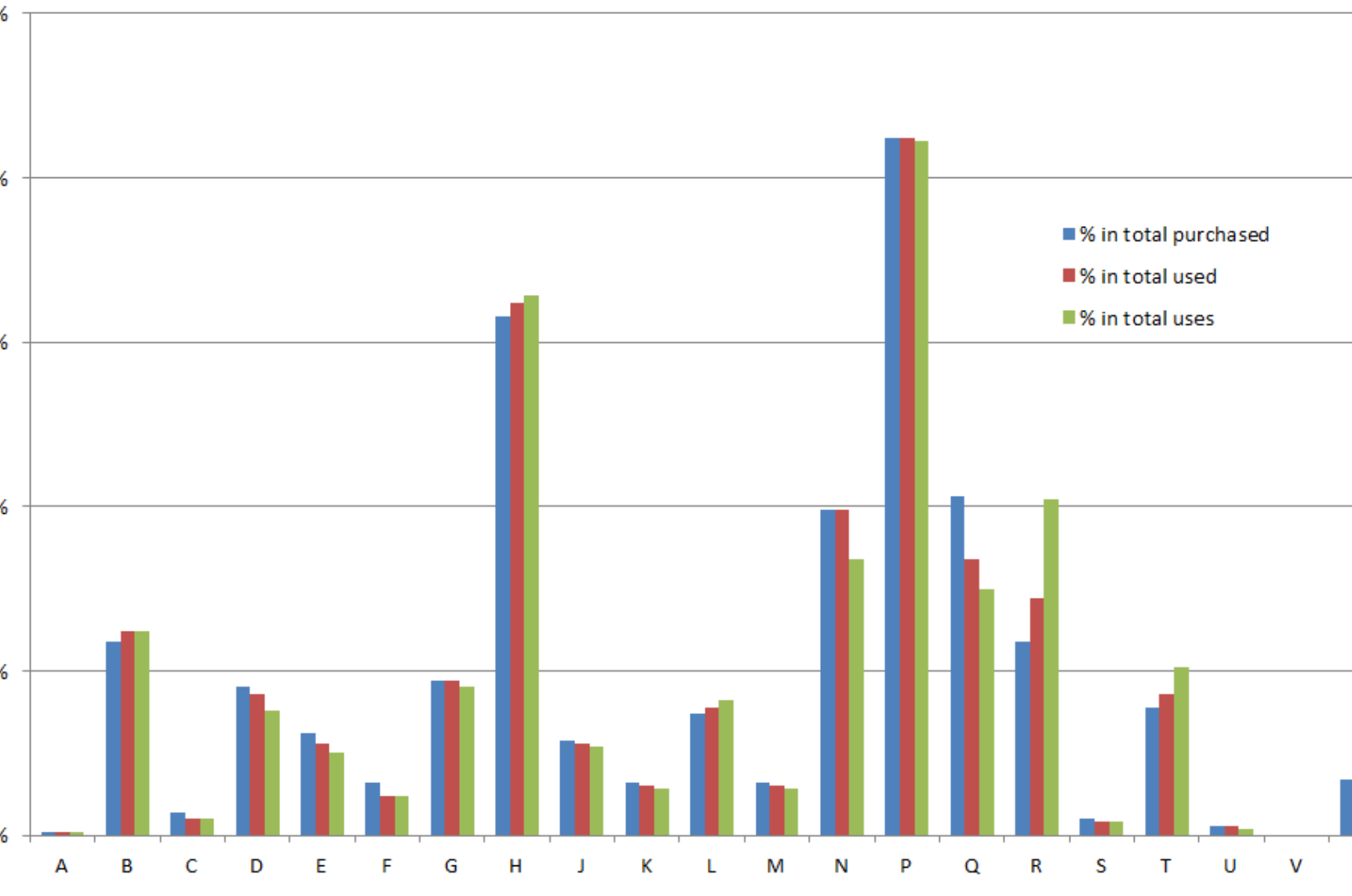


FIGURE 2. Print book acquisition and use by subject.



2. Does DDA lead to more active use of the library book collection?

TABLE 4 Print Book Use Distribution by Frequency

| Cumulated usage | # of books | % | Cumulative % |
|-----------------|------------|--------|--------------|
| No use | 7,506 | 37.5% | 37.5% |
| 1 | 2,550 | 12.7% | 50.2% |
| 2-3 | 3,151 | 15.7% | 65.9% |
| 4-9 | 4,844 | 24.2% | 90.1% |
| 10-15 | 1,417 | 7.1% | 97.2% |
| 16-20 | 361 | 1.8% | 99.0% |
| 21-30 | 178 | 0.9% | 99.9% |
| 31-40 | 20 | 0.1% | 100.0% |
| >=41 | 3 | 0.0% | 100.0% |
| TOTAL | 20,030 | 100.0% | |

TABLE 5 DDA Ebook Use Distribution by Frequency

| User session | Triggered ebooks used during pilot (Jan-Jun, 2012) | Triggered ebooks used within the first year (Jan-Dec, 2012) | Ebooks in the discovery pool used during pilot (Jan-Jun, 2012) | Ebooks in the discovery pool used within the first year (Jan-Dec, 2012) |
|--------------|--|---|--|---|
| No use | 3 | 0.7% | 1 | 0.2% |
| 1 | 199 | 43.6% | 2 | 0.4% |
| 2-3 | 151 | 33.1% | 221 | 48.5% |
| 4-9 | 78 | 17.1% | 190 | 41.7% |
| 10-15 | 17 | 3.7% | 26 | 5.7% |
| 16-20 | 2 | 0.4% | 4 | 0.9% |
| 21-30 | 1 | 0.2% | 3 | 0.7% |
| 31-40 | 2 | 0.4% | 5 | 1.1% |
| >=41 | 3 | 0.7% | 4 | 0.9% |
| TOTAL | 456 | 100.0% | 456 | 100.0% |

FIGURE 4. Comparison of book use distribution of DDA ebooks and print books

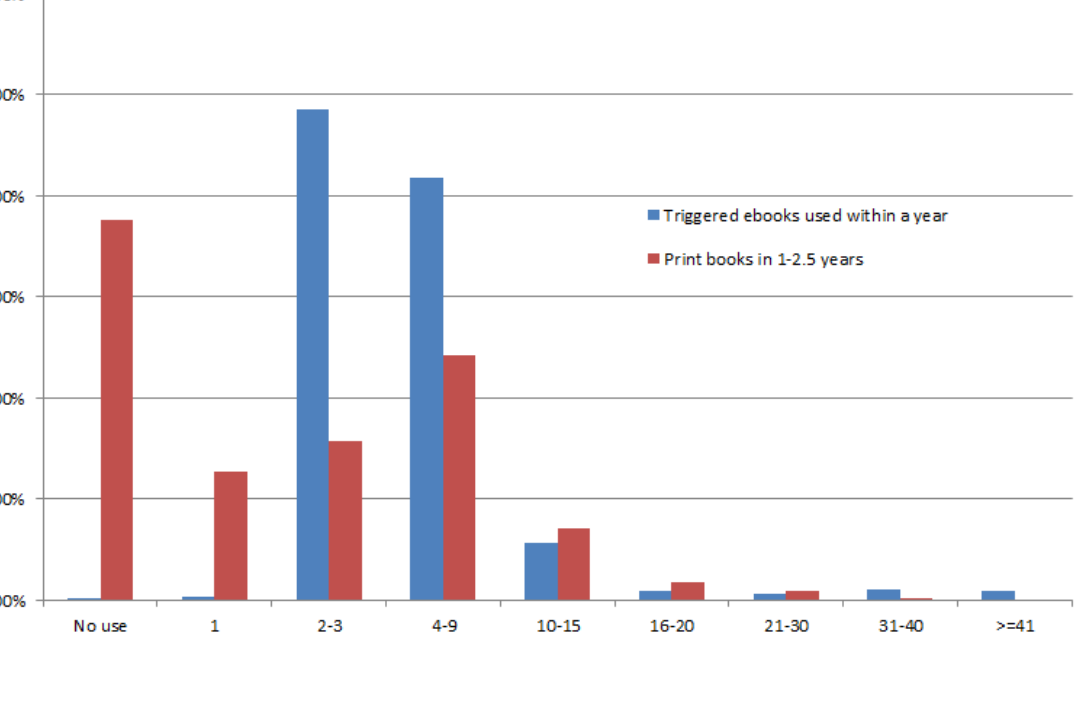


TABLE 6 Use of Ebooks in Discovery Pool That Were Not Purchased during Pilot

| User session | # of ebooks | % | % of ebook sample |
|--------------|-------------|--------|-------------------|
| 1 | 543 | 76.3% | 2.5% |
| 2-3 | 145 | 20.4% | 0.7% |
| 4-9 | 23 | 3.2% | 0.1% |
| 10-15 | 1 | 0.1% | 0.0% |
| 16-20 | - | 0.0% | 0.0% |
| 21-30 | - | 0.0% | 0.0% |
| 31-40 | - | 0.0% | 0.0% |
| >=41 | - | 0.0% | 0.0% |
| TOTAL | 712 | 100.0% | 3.2% |

4. What issues are associated with DDA and how may these issues be addressed?

- Hidden costs of the DDA model involved in technical services
- Challenges of consistent service due to availability and access of ebooks
- Weeding discovery records, and the anomalies in the discovery pool for ebooks meeting the YBP approval parameters
- Effective ebook discovery and access system development and the DDA model assessment

Conclusion and Future Research

- The results of this study contribute to a better understanding of DDA ebook acquisition and use by answering some of the key questions about the DDA purchase model.
- Unlike DDA acquisitions, in which 100% of ebooks were used within a year, close to 40% of all the purchased print books had never been used since they were added to the collection 1-2.5 years ago.
- Overall, DDA aligns the library's collection with current user requirements. In addition, the DDA ebook discovery pool serves as a valuable free supplementary source of readings to users.
- Separate analyses of subject acquisition and use of print books and DDA ebooks show that uses of print books and DDA ebooks align well with acquisitions overall.
- DDA ebook acquisition and use occur more often than print books in some subject areas while print book acquisition and use occur more often in others. It would be interesting to explore further the reasons behind such differences in subject acquisition and use by book type.
- It is clear that DDA leads to much more active use of ebooks despite the shorter timeframe for ebooks to incur the uses for the comparison.
- As it stands both DDA and print cost per use is equal at \$18. This study suggests that the DDA model would have an advantage in unit cost per book use with a longer timeframe of use for ebooks.
- The KSUL DDA pilot and this study have identified a wide range of issues and suggested possible solutions for future DDA ebook practice and research.
- Additionally, effective ebook discovery and access system development and the DDA model assessment are also important for future practice and research.