

**Visualizing Value of Library Collections Relative
to the University Teaching and Research Enterprise**
An Application of the CDL Journal Weighted Value Algorithm
by Three BTAA Libraries

Sarah Murphy

Lee Konrad

Mary Schoenborn

Jim Stemper

Stephen Meyer

Opportunity

The Big Ten Academic Alliance (BTAA) purchased a subset of the Clarivate Web of Science dataset:

- * articles *authored* by OSU / UMN / UWI
- * articles *cited* by OSU / UMN / UWI

The authors are from 3 of the 14 schools in BTAA

Research questions

1. How many BTAA schools **subscribe** to each journal?
2. What journals do BTAA faculty **publish** in? **cite**? **download**?
3. Do authorship / citation rates vary widely by **subject**?
4. Do **20%** of the journals represent 80% of total downloads?
5. How does a **publisher** perform relative to all titles in a subject?

Data model

1. Web of Science XML dataset (2015-17)
2. COUNTER version 4.0 downloads (2015-17)
3. Holdings (link resolver access to journal titles)
4. Table 3, *Library Journal* 2018 Periodicals Price Survey
5. Broad LJ Subject headings

Tableau joins for 1-5

Demonstration

Subject/Title Dashboard

Title-specific downloads / authorships / citations (w/ 3 year trend graphs), resulting weighted CDL score, and # of subscribing BTAA schools

Publisher Dashboard

Performance of a publisher's package of titles by subject, in relation to the performance of *all* titles in a subject

Subject Dashboard

Decision-making matrix for all subscribed titles by subject w/in broad discipline, displaying high / low authorships vs. high / low citations)

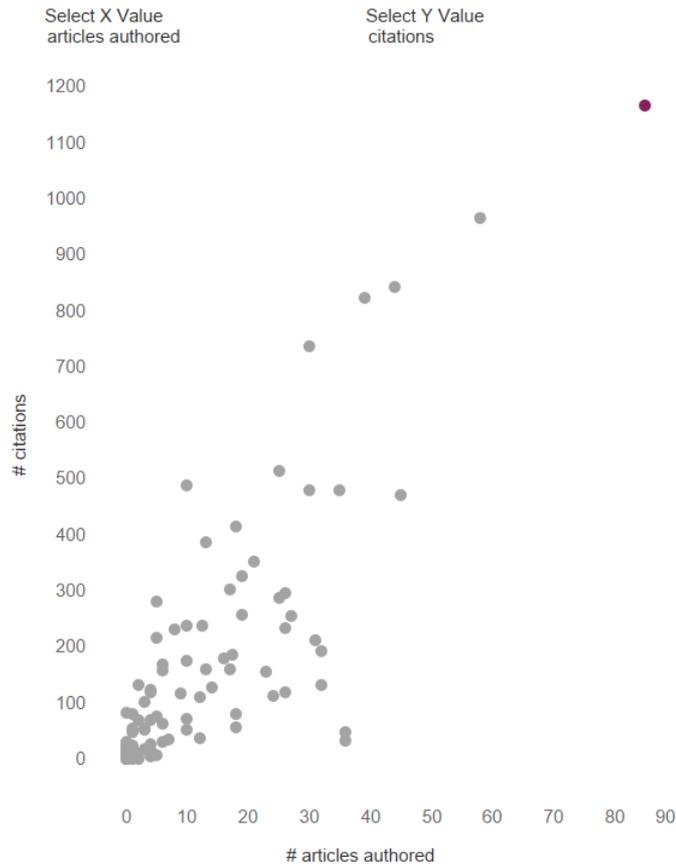
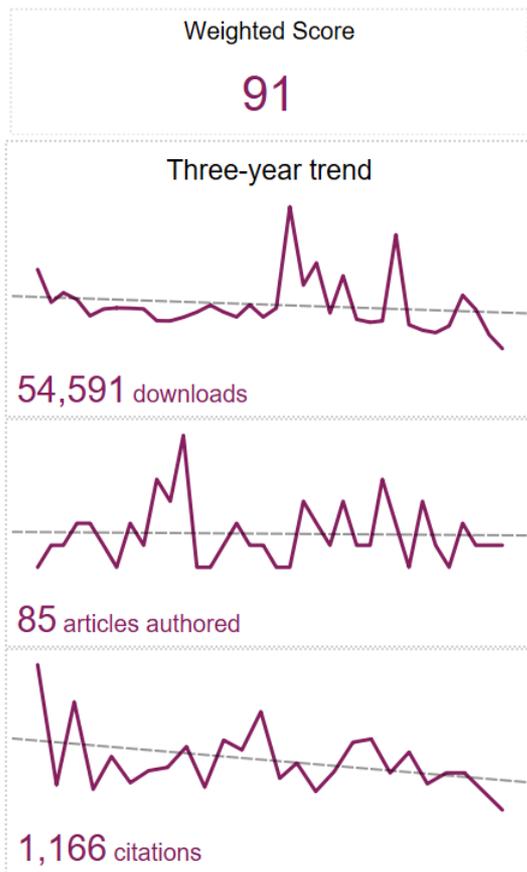
Summary Dashboard

Publishers sortable by # of titles with 80% of downloads or 20% of downloads

Javma-journal of the american veterinary medical association

SF601; 3 BTAA schools subscribe to this title; BTAA authors published 85 articles between 2015-2017.

[Click to select filters](#)



[view all titles in category](#)

Click to return

Select a collection

Arts & Humanities Citation Index

Science Citation Index

Social Sciences Citation Index

Select weights for total weighted score

(downloads score + articles authored score + citation score + average journal cost score)

downloads
0.35

articles authored
0.25

citations
0.25

average journal cost
0.15

Select a subject

- Political Science
- Psychiatry & mental health
- Psychology
- Public health
- Pulmonology
- Radiology & Nuclear Medicine
- Recreation
- Social Sciences
- Sociology
- Sports Medicine
- Subject not available
- Surgery
- Technology
- Toxicology
- Urology & Nephrology
- Veterinary Medicine**
- Zoology

Select a title

- international journal of applied research in veterinary medicine
- Iranian journal of veterinary research
- Irish veterinary journal
- Israel journal of veterinary medicine
- Japanese journal of veterinary research
- Javma-journal of the american veterinary medical association**
- Journal of animal physiology and animal nutrition
- Journal of avian medicine and surgery
- Journal of camel practice and research
- Journal of comparative pathology
- Journal of equine veterinary science
- Journal of exotic pet medicine
- Journal of feline medicine and surgery
- Journal of small animal practice
- Journal of swine health and production
- Journal of the american animal hospital association

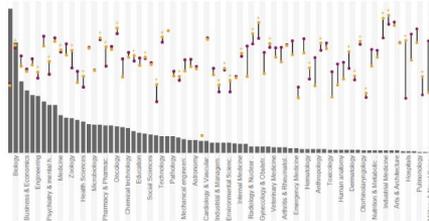
Select a Publisher

Select a BTAA School
at BTAA



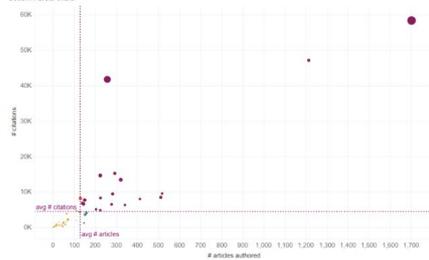
Publisher Performance by Subject

This chart shows the **average weighted score for all titles** in a subject and the **average weighted score for all Publisher B titles** in a subject. The gray bars show the number of titles in each subject area that Publisher B publishes. This visualization builds on graphs presented by Ivy Andersen during the 2018 Charleston Conference.

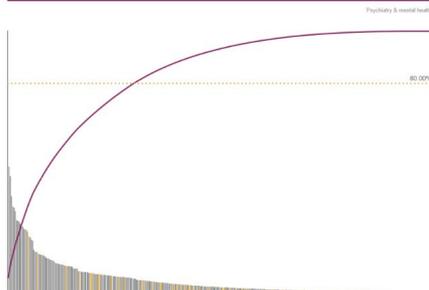


Explore subjects covered by this publisher

Hover over a dot to see which Publisher B subjects have high authorship, high citations, high authorship, low citations, low authorship, high citations, and low authorship, low citations. Then click on a circle below to explore a specific subject on the bottom Pareto chart.



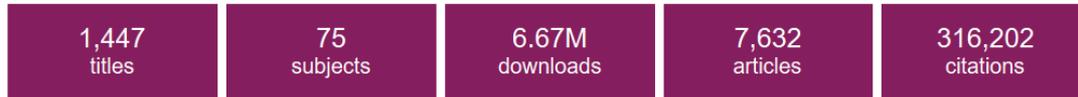
Click on a circle above to compare usage for this publisher's titles - in yellow - to other publisher's titles in a subject category.



Select a Publisher

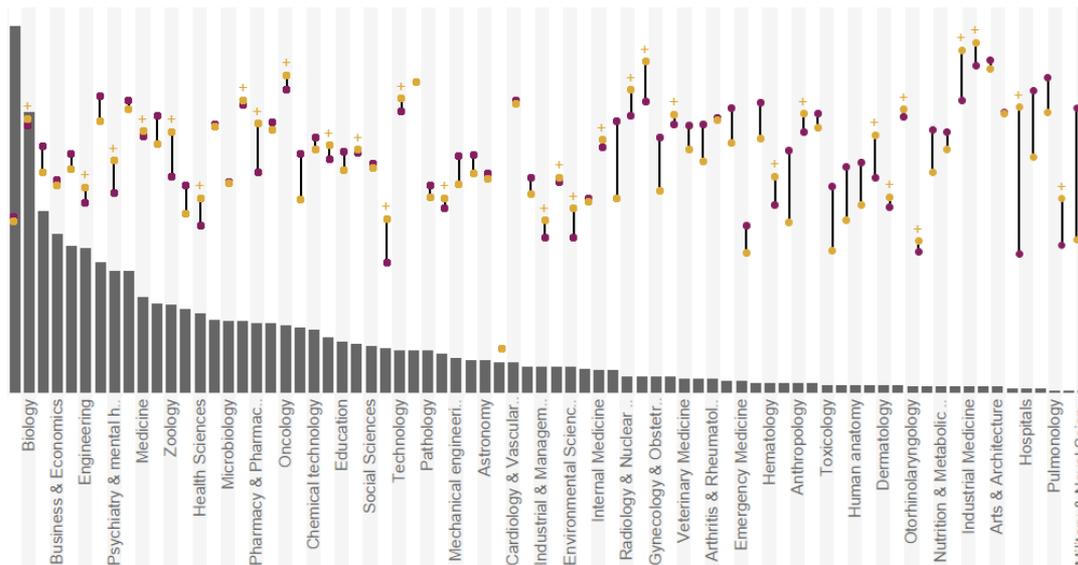
Select a BTAA School

Publisher B all BTAA



Publisher Performance by Subject

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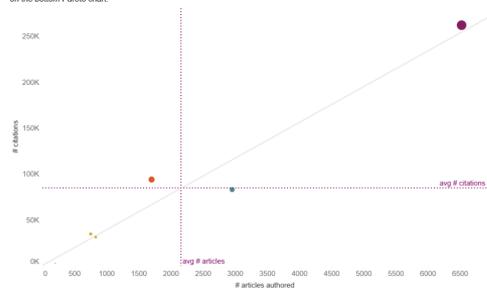
Explore subjects covered by this publisher

Select a Subject
Agriculture & Life Sciences

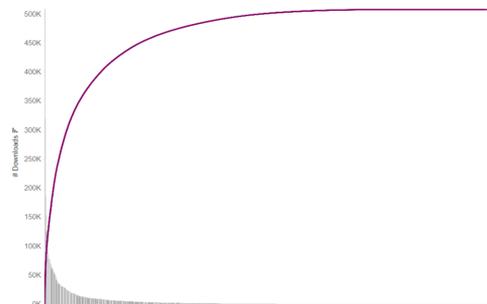
Select a BTAA School
all BTAA

Click on a circle above to explore a specific subject

Hover over a dot to see which Agriculture & Life Sciences subjects have high authorship, high citations, high authorship, low citations, low authorship, high citations, and low authorship, low citations. Then click on a circle to explore a specific subject on the bottom Pareto chart.



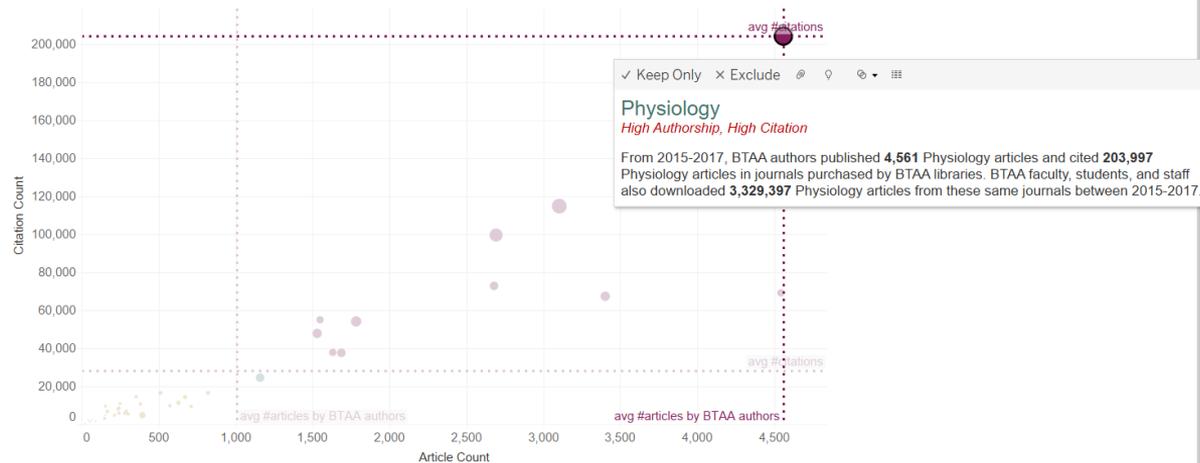
After you click on a circle above to explore a specific subject, try hovering over a title on this pareto chart to see the total number of downloads for each title in Agriculture & Life Sciences. Note that all BTAA library users download roughly 90% of all articles from 20% of the titles at BTAA Libraries purchase in this subject area.

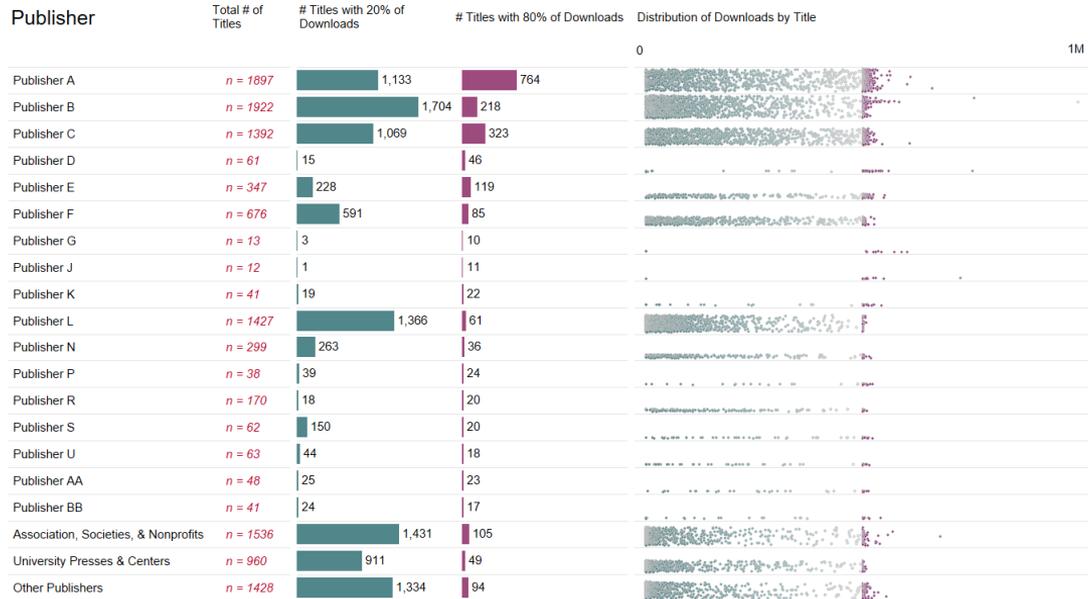


Select a broad subject area

Health Sciences

Hover over a dot to see which Health Sciences subjects have high authorship, high citations; high authorship, low citations; low authorship, high citations; and low authorship, low citations.

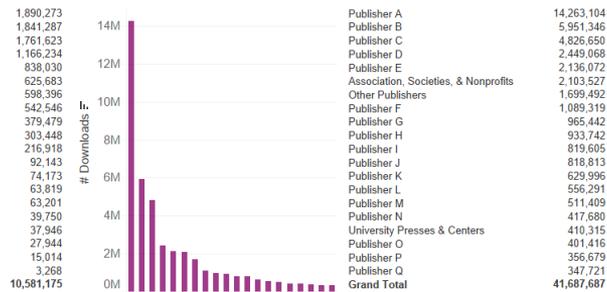




Bottom 20 Publishers



Top 20 Publishers



Discussion

CDL score – a number combining a title's download, articles authored, and citation metrics – simplifies the comparison of titles, publishers, and subjects

A **dashboard** acknowledges differences in disciplinary research practices and gives subject coordinators the means to analyze their collections in depth

Since a minority of titles usually generate the majority of downloads, focus on adding / removing titles by **subject** rather than by publisher.

The following subjects may be advantageous for collective purchase:

1. Biology
2. Physics
3. Physiology
4. Chemistry
5. Surgery
6. Medicine
7. Psychiatry & Mental Health
8. Oncology
9. Business & Economics
10. Psychology

Robust **data visualization software** aids the analysis of large datasets (e.g., reaffirms the importance of psychology journals within Social Sciences)

Tableau dashboards are available upon request to BTAA research libraries