Showcasing Faculty Research with Elements and Tableau

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UNIVERSITY OF COLORADO BOULDER  UNIVERSITY OF COLORADO BOULDER
Collecting & Analyzing Faculty Research Outputs

- How do we measure research productivity?
- How do you find authoritative sources for faculty research outputs?
- How do we ensure that the Libraries are collecting and providing access to the scholarly resources used and produced by faculty?

Faculty CVs
- Print, PDFs
- Posted on academic department website
- Posted on personal/professional website
- Submitted to campus wide online reporting database

Citation Databases
- Web of Science
- InCites
- Scopus
- Mendeley
- Google Scholar

Other Tools
- Faculty Report of Professional Activities (FRPA)
- Elements
- Profile Systems (VIVO)
- Academic Analytics
- Physically reviewing books to identify university authors
University Libraries Partnership with Faculty Affairs

- Research Information Management System
- Support and improve faculty reporting
- Gather higher quality data about publications
- Feeds data to the Faculty Report of Professional Activities
- Support the reuse of publication data

FRPA Online Access to Reports

These password-protected FRPA summary tables were created to assist deans and unit heads in their annual evaluation of faculty. The intent of the FRPA summary tables is to provide data pertinent to quantitative analyses. Qualitative aspects are not evident.

To logon, please enter the department, school or college FRPA id (4 numerals) and FRPA password then click the button titled “Logon to FRPA PORT” below.

If you don’t know the id or password, call Faculty Affairs at 303-492-3065.

FRPA id
FRPA password

Logon to FRPA PORT

University of Colorado Boulder

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Streamlined Workflow - Elements

Data Collection
- APIs
  - Web of Science (Science Citation Index, Social Science Citation Index, Arts & Humanities Index, Book Citation Index)
- Data feeds
  - Arxiv, CiNii, CrossRef, DBLP, PubMed Central (US and Europe), Google Books, RePEc, Web of Science
- Manual curation

Reporting Functionality
- Charts, graphs, lists in Elements dashboard

Export Functionality
- Export data into Excel, PDF, RIS, BibTeX
Elements Reporting Functionality

- Basic Reports
- Group Stats
- Comparative Stats
Elements Reporting Functionality

Charts and Graphs

- Total publications per year
- Average publications per user by year
- Publications by citation count
- Elements H-Index
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Tableau Software - Data Visualization

Most Cited Journals by Journal Title and Department
Tableau Dashboards for Collection Analysis

- Most Cited Journals by Journal Title
- Most Cited Journals by Department
- Journals with most published articles
- Top Publishers for books and journals
  - Group by academic department
  - Group by subject librarian
- Combine Elements data with holdings data from ILS and Serials Solutions
Tableau Software—Connecting Data

Integrate and analyze various data sources:

- Excel spreadsheets from Elements
- Excel spreadsheets containing library holdings (ILS data)
- Better yet, connect directly to ILS data using PostgreSQL database (Sierra DNA)
- Excel spreadsheets exported from citation databases such as Web of Science or Scopus
Does the Library provide access to the journals in which our faculty are publishing articles?

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</table>
Key Findings

- The Libraries have most (75%) of the books published by our faculty.
- The Libraries provide access to most of the journals where faculty are publishing:
  - 100% of journals with the highest cited articles.
  - 99% of journals with 10+ articles published by our faculty.
- Still have many other types of publications (conference proceedings, book chapters, etc.) to analyze.
Practical Implications and Value

• More responsive collection development
  • We can systematically collect books by CU authors, subscribe to journals where faculty are publishing
  • Librarians can use data visualizations to spot trends and learn about emerging research areas
  • Connecting holdings and usage statistics to inform decisions about renewals, cancellations, or transferring materials offsite

• Structured reusable data
  • Tableau dashboards and data visualizations
  • Altmetric Explorer
  • VIVO profiles (CU Experts)

• Support university wide shift from citation data collection to research information management
Conclusions

- Citation data is readily available, but challenging to collect and curate
  - Need back-end systems like Elements (or Digital Measures) aggregate this data and make it easier to analyze
  - Need publishing tools like Tableau to collect and analyze readily available citation data and create public-facing presentations

- Value of partnering with Faculty Affairs
  - Tapping into existing data source and share resources
    - Faculty Affairs has programmers, funding
    - Librarians have expertise about citation indexes, classification schema, and search strategies
  - Requirement for faculty to complete annual report of activities comes from Faculty Affairs and the Provost and Executive Vice Chancellor for Academic Affairs, not the Libraries
Next Steps

• Where to publish the dashboards?
  ◦ Separate internal and public facing data

• Incorporate more visual elements
  ◦ Image galleries for book and journal covers

• Real-time data connections to Tableau through direct SQL or API access

• Integrate Elements with the Institutional Repository (CU Scholar)
  ◦ Improved workflow to promote OA policy compliance

• Bibliometric analyses of faculty contributions
  ◦ Thomson Reuters citation data for cited references
  ◦ Almetric Attention Scores
Questions?

Thank you!

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