Disciplinary Differences in Applying E-journal Usage Metrics

James Stemper, Katherine Chew, Mary Schoenborn, Caroline Lillard, University of Minnesota Libraries

Purpose:
- Determine if the relationship between a) journal downloads or rankings and b) faculty authoring venue or citations to them varies by discipline.
- Does the strength of the correlations vary by discipline?
- Do the social sciences or humanities differ from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Methodology:
- Use data for years of (2009-2012) collected for each subject journal set: OpenURL, link resolver article view requests & publisher’s COUNTER article downloads
- Ranking data: 5-year Impact Factor, current Eigenfactor & Source Normalized Impact Per Paper (SNIP) recorded for each journal title
- Citation data: 2 years (2009-2010) collected from Thomson Local Journal Use Reports (LJUR); 4 years (2009-2012) from Elsevier SciVal (Scopus)
- Journal value assessed by: (1) Impact Factor rankings were strong only for History/Accounting and moderate to very weak for the rest of the disciplines.
- Eigenfactor overall correlated the best across all disciplines, although weak for Chemistry/Marketing Accounting & very weak for most of the health sciences except Pediatrics.
- SNIP had mixed results, correlating better in the Humanities & Social Sciences than the sciences, but strong only for Accounting.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Impact Factor rankings were strong only for History/Accounting and moderate to very weak for the rest of the disciplines. Eigenfactor overall correlated the best across all disciplines, although weak for Chemistry/Marketing Accounting & very weak for most of the health sciences except Pediatrics. SNIP had mixed results, correlating better in the Humanities & Social Sciences than the sciences, but strong only for Accounting.

SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.

Conclusions:
- Does the strength of the correlations vary by discipline?
- Are social sciences or humanities different from the physical or health sciences?
- Are there differences between similar disciplines (e.g. physical & health sciences), or within disciplines (e.g. nursing to pharmacy)?
- Determine if the newer ranking metrics Eigenfactor & SNIP correlate better with downloads and citations than Impact Factor.
- Determine if Scopus is a valid alternative to Local Journal Use Reports as a way of correlating faculty publication & citation practices with journal selections.

Do the answers vary by the journal’s discipline?
- Social Sciences & Humanities: Impact Factor rankings were weak to moderate predictors, but strong in History/Accounting (LJUR data & Accounting, scopus data).
- Eigenfactor was the stronger predictor across all disciplines.
- SNIP had mixed results, correlating the best in the Humanities & Social Sciences and the worst in the Physical & Social Sciences.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.
- SNIP had stronger correlations in medium to strong correlations with downloads and citations than Impact Factor.