Evidence Based Library and Information Practice

Evidence Summary

Faculty Decisions on Serials Subscriptions Differ Significantly from Decisions Predicted by a Bibliometric Tool

A Review of:
Knowlton, S. A., Sales, A. C., & Merriman, K. W. (2014). A comparison of faculty and bibliometric valuation of serials subscriptions at an academic research library. *Serials Review*, *40*(1), 28-39. http://dx.doi.org/10.1080/00987913.2014.897174

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Abstract

Objective – To compare faculty choices of serials subscription cancellations to the scores of a bibliometric tool.

Design – Natural experiment. Data was collected about faculty valuations of serials. The California Digital Library Weighted Value Algorithm (CDL-WVA) was used to measure the value of journals to a particular library. These two sets of scores were then compared.

Setting – A public research university in the United States of America.

Subjects – Teaching and research faculty, as well as serials data.

Methods – Experimental methodology was used to compare faculty valuations of serials (based on their journal cancellation choices) to bibliometric valuations of the same journal titles (determined by CDL-WVA scores) to identify the match rate between the faculty choices and the bibliographic data. Faculty were asked to select titles to cancel that totaled approximately 30% of the budget for their disciplinary fund code. This "keep" or "cancel" choice was the binary variable for the study. Usage data was gathered for articles downloaded through the link resolver for titles in each disciplinary dataset, and the CDL-WVA scores were determined for each journal title based on utility, quality, and cost effectiveness.

Titles within each dataset were ranked highest to lowest using the CDL-WVA scores within each fund code, and then by subscription cost for titles with the same CDL-WVA score. The journal titles selected for comparison were those that ranked above the approximate 30% of titles chosen for cancellation by faculty and CDL-WVA scores.

Researchers estimated an odds ratio of faculty choosing to keep a title and a CDL-WVA score that indicated the title should be kept. The *p*-value for that result was less than 0.0001, indicating that there was a negligible probability that the results were by chance. They also applied logistic regression to quantify the association between the numeric score of CDL-WVA and the binary variable of the faculty choices. The *p*-value for this relationship was less than 0.0001, also indicating that the result was not by chance. A quadratic model plotted alongside the previous linear model follows a similar pattern. The *p*-value of the comparison is 0.0002, which indicates the quadratic model's fit cannot be explained by random chance.

Main Results – The authors point out three outstanding findings. First, the match rate between faculty valuations and bibliometric scores for serials is 65%. This exceeds the 50% rate that would indicate random association, but also indicates a statistically significant difference between faculty and bibliometric valuations. Secondly, the match rate with the bibliometric scores for titles that faculty chose to keep (73%) was higher than those they chose to cancel (54%). Thirdly, the match rate increased with higher bibliometric scores.

Conclusions – Though the authors identify only a modest degree of similarity between faculty and bibliometric valuations of serials, it is noted that there is more agreement in the higher valued serials than the lower valued serials. With that in mind, librarians might focus faculty review on the lower scoring titles in the future, taking into consideration that unique faculty interests may drive selection at that level and would need to be balanced with the mission of the library.

Commentary

With the rising cost of serials and a repeated need to make choices about what to keep and what to cut, the authors of this study present a unique process to determine how to involve faculty in the decision making process. They state that faculty selector models for monographs have historically been "conceptual rather than data driven" (p. 29); however, librarians have designed data-driven tests to compare library selections to those of faculty. Though there have been reports in the literature about how to integrate faculty choices into serials decisions, there have not been any experiments into how faculty valuations compare to bibliometric valuations. It was with this intention that the authors set about designing this study, which was set in a local context and could possibly be replicated at any other location.

The researchers chose the California Digital Library Weighted Value Algorithm (CDL-WVA) to assess the value of the journals for this study because it integrates multiple datasets – including local usage, local citations, journal ranking measures and cost effectiveness. Because it is designed to measure the value of journals for a specific library, and not value in general, it was determined to be an accurate comparator for this study.

The study was evaluated using Glynn's critical appraisal for library and information research checklist (Glynn, 2006). The overall score was 84%, indicating that the study is valid. The population, data collection, study design, and results sections rated 75%, 80%, 100% and 83% respectively, all within the range of validity. The complex nature of the methodology weighed heavily in scoring results.

Though the researchers express regret that the study lacked actionable conclusions, they present an interesting idea for serials valuation and faculty participation in the serials selection. They made a compelling case for the use of the CDL-WVA as a bibliometric tool, and how to use that data to make a fair comparison with the faculty valuations.

There are some minor concerns, however. One is the two year difference between data collected from faculty and data from the link resolver. Faculty choices would heavily depend on those specific faculty members who responded to the library request for cancelation choices, which may change within two years based on faculty turnover, research interests and courses they were teaching at the time. The rationale that the faculty choices were predictive is reasonable under these circumstances. Though the article was detailed in its description of their methodology, some readers may want additional details regarding the dispersal of journal funds across disciplines at the institution studied, and how varied usage of journals by discipline factors into the analysis of the data.

These concerns in no way detract from the value of the methodology. Overall, this study offers a model for serials evaluation that could be replicated by other libraries, as more serials cuts will likely be in our future.

Reference

Glynn, L. (2006). A critical appraisal tool for library and information research. *Library Hi Tech*, *24*(3), 387-399. http://dx.doi.org/10.1108/07378830610692154