



Evidence Summary

UK Library and Information Science Research is Having a Significant Influence on Research in Other Subject Disciplines

A Review of:

Hessey, R., & Willett, P. (2013). Quantifying the value of knowledge exports from librarianship and information science research. *Journal of Information Science*, 39(1), 141-150.
doi:10.1177/0165551512442476

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Received: 30 May 2013

Accepted: 10 Jan. 2014

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Abstract

Objective – To quantify the value of librarianship and information science (LIS) exports knowledge to other subject disciplines.

Design – Bibliometric study.

Setting – LIS departments in U.K. universities.

Subjects – 232 LIS research articles published between 2001 and 2007.

Methods – Data from the 2008 U.K. Research Assessment Exercise were checked to identify 405 research articles submitted by 10 selected university departments (out of a total of 21), which submitted research in the LIS category.

The Web of Science database was then searched to see how many of these articles had been cited in other articles (n=232). If the citing article was published in a non-LIS journal it was considered a knowledge export. Journals were defined as non-LIS if they had not been assigned the subject category of Information Science & Library Science by the Journal of Citation Reports. The journal Impact Factors (IFs) of citing journals were then normalized to measure the value of individual knowledge exports to their respective subject disciplines. This was done by comparing a citing journal's IF with the median journal IF within that subject category. If the citing journal's IF was above this median it was considered to be a valuable knowledge export.

Main Results – The sample of LIS research articles produced a total of 1,061 knowledge exports in 444 unique non-LIS journals. These non-LIS journals covered 146 unique subject categories of which those related to computer science and chemistry/pharmacology cited LIS research with the greatest frequency. Just over three-quarters (n=798) of these citations were considered to be valuable knowledge exports. A sub-analysis showed that LIS articles published in non-LIS journals were significantly more valuable than the knowledge exports published in LIS journals.

Conclusion – The validity of bibliometric studies can be improved by adopting the two methodological innovations presented in this study. The first innovation is to avoid over-estimating the number of knowledge exports by discounting “part exports” (i.e., where the citing journal is assigned to multiple subject categories, one of which includes the same as that of the cited reference). The second innovation introduced by this study is to add an extra dimension to the analysis by measuring the value of each knowledge export by taking into account the “normalized” impact factor of citing journals.

Commentary

Previous studies have shown that knowledge transfers between subject disciplines are not simply reciprocal in nature but are instead part of a hierarchical structure with certain subjects exerting more influence than others (Urata, 1990). Since the 1980s knowledge transfers have been increasing across all subject areas with LIS reporting the largest increase of all (Levitt, Thelwall, & Oppenheim, 2011). The bibliometric import-export study used here is well established in the literature as a means of quantifying such knowledge transfers. Using terms borrowed from economics, a knowledge export is defined as when published research from one subject area is cited by research from another subject area.

Defining LIS research is less straightforward than one might think. Other studies have

defined LIS research as that which is published in LIS journals (defined as such by a journal classification system such as Journal Citation Reports). The authors reject this definition as too narrow arguing that, because of the inherently inter-disciplinary character of LIS research and those who produce it, we would expect a good deal of it to be published in non-LIS journals (as is confirmed by this study). Hence a potential source of selection bias is avoided in this study by collecting a set of articles from recognized LIS researchers regardless of where they will eventually be published. The advantage of collecting the articles by this method is that we can be confident that this study is truly quantifying the value of LIS research rather than research from other disciplines which may have been published in journals over-sensitively classified as belonging to the LIS discipline.

The study sample was adequate in size to produce statistically significant results when comparing the value of knowledge exports published in LIS journals with those published in non-LIS journals. Another aspect of the study sample is that it only included LIS research published by academics and so the findings may not be applicable to research published by practising librarians.

A major finding of this study is the association of LIS research published in non-LIS journals with a higher value of knowledge exports. However, the observational study method employed here by Hessey and Willett cannot prove that publishing in non-LIS journals *causes* these improved outcomes, even if it is plausible.

The LIS community can take encouragement from the news that knowledge exports from their specialist subject area have been shown to be of high value to those areas to which they have been exported. LIS researchers who wish to attract the interest of researchers from other subject fields will be more specifically encouraged to publish their work in non-LIS journals as this has been associated with a greater value of knowledge export.

References

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