Research Assessment Using Bibliometric and Scientometric Measures: The Good, the Bad and the Ugly

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"Not everything that counts can be counted, and not everything that can be counted counts.” -- Albert Einstein

Abstract: Assessment is an integral part of the life-cycle of research and innovation carried out by any credible research institution including universities. Research assessment has traditionally been based on peer review, which is a somewhat subjective process by its very nature and has been under close scrutiny. Bibliometric and scientometric measures such as journal impact factor, article influence score and h index that are readily available through commercial companies make such measures extremely attractive for researchers and funders because of ease of use. However, these measures were originally developed to help librarians manage their collections rather than to assess the quality of individual papers, authors or research institutions. Such metrics would seem less subjective, yet they may not necessarily measure what academic administrators and research funders want them to measure (i.e., the quality). This paper reviews the use and misuse of bibliometric and scientometric measures and offers some recommendations.

Key words: bibliometrics, scientometrics, journal impact factor, cited half-life, article influence score, h index