

Title: Modifying the Eigenfactor Algorithm for improving interpretability

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Abstract: The Eigenfactor (EF) Metrics measure the influence of journals within the context of the full citation network. This includes the EF scores and the ArticleInfluence (AI) score. Instead of just counting the number citations, the algorithm considers the source of the citation. Journals with more citations will carry more weight as source nodes.

The EF metrics have been widely adopted. They were included in Thomson Reuters' Journal Citation Reports in 2007. Since then, we have collected formal and informal usage data on how stakeholders use the metrics. We have found that users struggle interpreting the EF Score (more so than the AI score even though the algorithms are essentially the same). Part of the reason is that most journals have an EF score less than zero (e.g., 0.0034). Scores for the 10,000 plus journals are normalized so that the sum of all scores is 100. Therefore, most journals are less than one.

In this talk, I will present a minor modification to the algorithm. It improves the display and interpretability while at the same time preserving both the ordinal and cardinal ranking. We are currently collecting data on how people interpret this number. The results (so far) strongly support the modification. We plan to report this metric at Eigenfactor.org so that stakeholders can better understand and interpret network based metrics.

In addition to improving understanding of the metrics, this exercise has taught a lesson: display matters, even for something as simple as a few decimal places.