

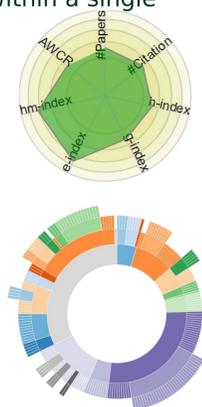
INTRODUCTION

Multidisciplinarity and collaboration are increasingly recognized as necessary in order to exchange knowledge across disciplines, foster learning, and address problems that transcend a single distinct academic field.

Existing bibliometric measures, such as citation counts and the h-index tend to reinforce research output within a single field.

Going beyond counts of publications and citations, we are interested in analyzing and quantifying the degree to which a researcher, a research activity, and a set of research outputs are collaborative and multidisciplinary. Further, we seek to understand how these new measures compare with more traditional measures of productivity.

In this poster, we present the results of our comparative analysis of several measures of research output for a large multidisciplinary team.



METHODS AND MATERIALS

Research Scope



Data Sources



Analysis Methods

Linear Regression
 Latent Dirichlet Allocation (LDA)

TRADITIONAL AND SOCIAL MEASURES

The concept of T-shaped skills, or T-shaped persons, is a metaphor used to describe the abilities of persons in the workforce. The vertical bar on the T represents the depth of related skills and expertise in a single field, whereas the horizontal bar is the ability to collaborate across disciplines with experts in other areas and to apply knowledge in areas of expertise other than one's own.

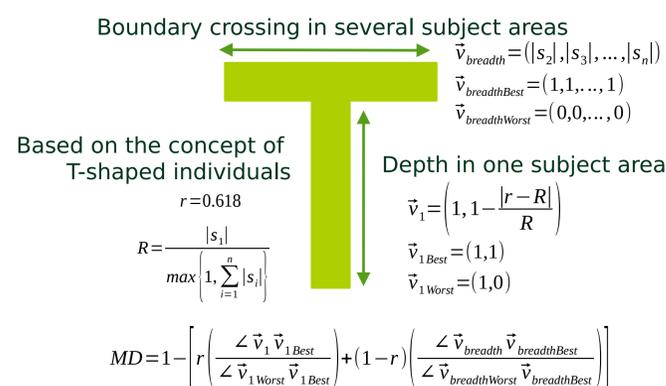
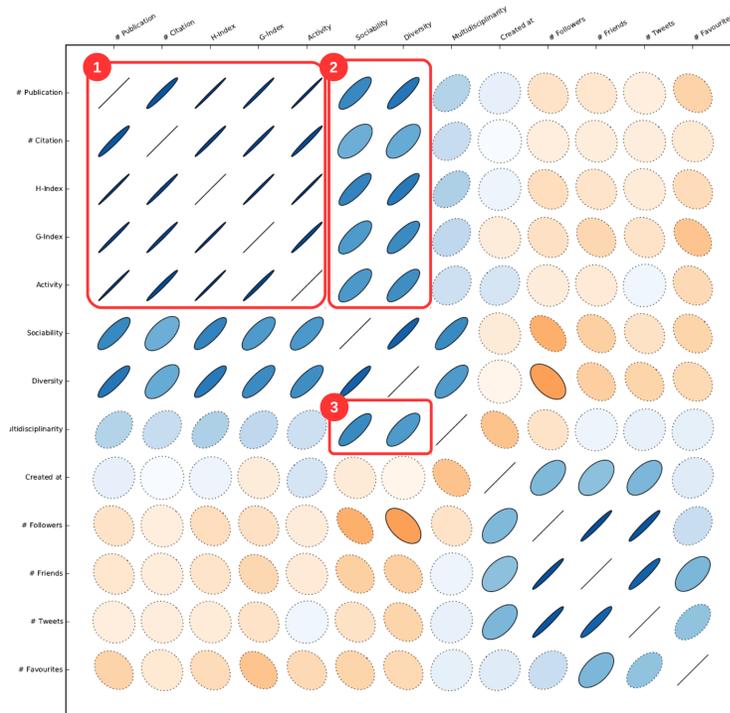


Fig. 1 Correlation analysis among measures



- 1 Strong correlation among traditional Pub/Cite/h-index/g-index
- 2 Weak correlation between traditional & sociability/diversity
- 3 Strong correlation between MD & sociability/diversity

- Publications of Researchers span different areas. A majority of them fall in Information System related areas.
- Tweets are more about daily life of researchers, evenly distributed amongst topics.
- Hottest academic-related topics on Twitter are social media & conferences.

Fig. 2 Topics in Publications & Tweets

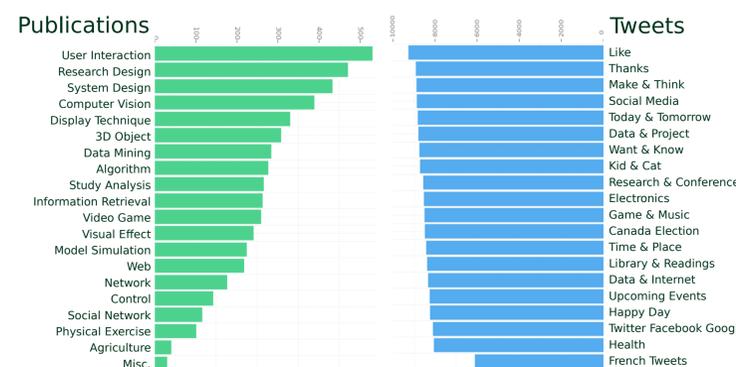
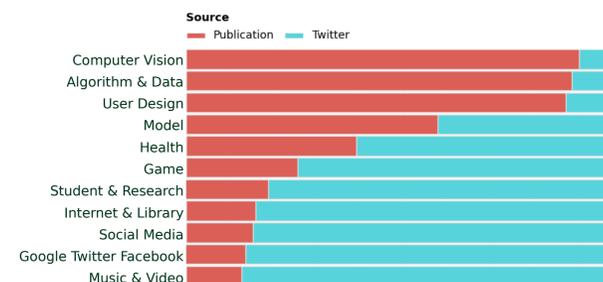


Fig. 3 Topics Distribution in Publications & Tweets



CONCLUSIONS

Key Insight

Measures of collaboration and multidisciplinary do not necessarily correlate with traditional bibliometrics. A coherent view of research output and impact has to take both into account.

More specifically

The researchers we studied do not tweet about the same topics in their published academic papers.

Future Work

- Identifying new metrics for capturing collaborative and multidisciplinary research outputs
- Calculating the T-shaped multidisciplinary measure for different populations, individuals and groups (e.g., ACM Turing Award winners vs. ACM Software Systems Award winners)
- Identifying how researchers communicate their work within their own peer networks and to wider audiences

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