Reviewer's report

Title: The intellectual structure and substance of the knowledge utilization field: A longitudinal author co-citation analysis, 1945-2004

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Reviewer: Thomas Valente

Reviewer's report:

Comments for authors

This MS provides a co-citation analysis of the knowledge utilization field over 5 decades. Data are derived from a search of the community of science database of publications using specific key words. Data were analyzed using standard co-citation software. The results show that Everett Rogers' diffusion of innovations texts represent an “obligatory passage point” for scholars studying diffusion, knowledge utilization, technology transfer, and evidence based medicine. Authors also conclude that a distinct sub-field, evidence based medicine, emerged from the knowledge utilization/diffusion perspective that provides a distinct locus of intellectual activity. Overall authors have provided a well-documented and reasoned study. There are several points, however, that warrant consideration.

First, the authors seem to neglect one area of diffusion research that might warrant comment or consideration. A lot of research on diffusion has been conducted about methods and models of diffusion research. By that I mean, work on using mathematical functions to fit diffusion data and social network research to understand how diffusion spreads via person-to-person communication. This occurred to me when seeing Mahajan and Peterson and Mansfield listed as technology transfer scholars. A major contribution of these authors, was to show how to fit mathematical models to diffusion data and many scholars have debated different modeling techniques. In a related vein, much of the citation to the Coleman Katz and Menzel (1966) study can be traced to Ron Burt’s efforts to uncover these data and make them publicly available. So I’m not sure how it applies to the current narrative, but it seems to warrant comment.

Second, authors need to be clear that the data from this analysis are based on co-citation data not citation analysis. In that sense, the data are somewhat under-analyzed in that it is really a tallying of citations not who cited whom. The MDS plot is simply a graphical display of the data and are not so informative as such. I think this is fine, but I think authors should indicate why they do not analyze the data as a citation network, whether such analysis is possible, and how it might differ from the present analysis.

Third, in one sense authors attempt to treat knowledge utilization, technology transfer, and diffusion as different labels for the same thing. Another view is that
they are different activities and processes. I, and probably others, have made figures depicting how these terms relate to one another and have different foci. So it might warrant some presentation on how these domains relate to one another from a substantive perspective rather than being united by having common citation to diffusion of innovations. Indeed, there may be other substantive areas that would also show overlap.

Fourth, I think the paper is a bit long and suggest that authors could reduce some sections. Pages 9-13 can be reduced dramatically. Table 1 can be eliminated as it is impossible to read and really repeats what is in table 3. Tables 4 and 5 can be dropped as they add little to the paper.

Fifth, authors repeatedly refer to Rogers’ diffusion of innovations theory. This is incorrect. Rogers did not create the diffusion model and did not add any components to its formulation. Crane and Valente and Rogers show that the Ryan and Gross publication formulated the diffusion model. By the mid-1950s a cadre of rural sociologists had filled in the major elements. Lionbergers’ 1960 “Adoption of new ideas and practices” book contains most of the elements of the diffusion model. Thus it is inaccurate to say Rogers’ diffusion model. It is more accurate to say the diffusion model elaborated by Rogers or simply the diffusion model. Rogers’ contribution was to see that diffusion research was being applied in many areas and comprehensively review those studies.

Finally, I was not entirely clear on what recall and precision measured. Can you elaborate on this?

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:** No