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A computational literature review of the technology acceptance model

Michael Mortenson, WMG, University of Warwick
email: M.Mortenson@warwick.ac.uk

Richard Vidgen*, University of New South Wales Business School
email: R.Vidgen@unsw.edu.au

*corresponding author

Abstract

A literature review is a central part of any research project, allowing the existing research to be mapped and new research questions to be posited. However, due to the limitations of human data processing, the literature review suffer from an inability to handle large volumes of research articles. The computational literature review (CLR) is proposed here as a complementary part of a wider literature review process. The CLR automates the analysis of research articles with analyses of impact (citations), structure (co-authorship networks) and content (topic modeling of abstracts). A contribution of the paper is to demonstrate how the content of abstracts can be analyzed automatically to provide a set of research topics within a literature corpus. The CLR software can be used to support three use cases: (1) analysis of the literature for a research area, (2) analysis and ranking of journals, and (3) analysis and ranking of individual scholars and research teams. The working of the CLR software is illustrated through application to the technology acceptance model (TAM) using a set of 3,386 articles. The CLR is an open source offering, developed in the statistical programming language R, and made freely available to researchers to use and develop further.

KEYWORDS: literature review, computational literature review, topic models, lda, social network analysis, co-authorship analysis, citation analysis, technology acceptance model, journal ranking.