Diversity in Finance Literature Revealed through the Lens of Machine Learning: A Topic Modeling Approach on Academic Papers

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Abstract : This paper aims to define a structured topography for finance researchers seeking to navigate the body of knowledge in their extrapolation of finance phenomena. To make sense of the body of knowledge in finance, a probabilistic topic modeling approach is applied on 6000 abstracts of academic articles published in three top journals in finance between 1976 and 2020. This approach combines both machine learning techniques and natural language processing to statistically identify the conjunctions between research articles and their shared topics described each by relevant keywords. The topic modeling analysis reveals 35 coherent topics that can well depict finance literature and provide a comprehensive structure for the ongoing research themes. Comparing the extracted topics to the Journal of Economic Literature (JEL) classification system, a significant similarity was highlighted between the characterizing keywords. On the other hand, we identify other topics that do not match the JEL classification despite being relevant in the finance literature.

Keywords : finance literature, textual analysis, topic modeling, perplexity

Conference Title : ICFBI 2022 : International Conference on Finance, Banking and Insurance

Conference Location : London, United Kingdom

Conference Dates : August 16-17, 2022