Valuing Patents with Regression Analysis for Technology Transfer processes – The case of advanced materials for circular economy

Idea: Technology evaluation has great potential for having large effects on society and for economic growth. Technological innovation occurs frequently, and predicting where it will happen is difficult because an economic system can adapt to changing technology. The dynamic properties of technology transfer processes can (partly) be captured through patent data. Based on a systematic literature review this thesis is going to answer how patent data can be used for regression analysis to evaluate the underlying technology transfer processes. The focus is here on the special case of advanced materials for circular economy.

Study design:

Systematic Literature Review with publication data

Relevant Literature:

Oh, G. Kim, H.-Y., & Park, A. (2017). Analysis of technological innovation based on citation information. Quality & Quantity – International Journal of Methodology, 51:1065-1091.

Bakker, J., Verhoeven, D., Zhang, L., & Van Looy, B. (2016). Patent citation indicators: One size fits all? Scientometrics, 106:187-211.

De Moya-Anegon, F., Lopes-Illescas, C., Guerrero-Bote, V., & Moed, H. (2020). The citation impact of social sciences and humanities upon patentable technology. Scientometrics, 125:1665-1687.

Yoshikane, F., Suzuki, Y., Arakawa, Y., Ikeuchi, A., & Tsuji, K. (2013). Multiple Regression Analysis between Citation Frequency of Patents and their Quantitative Characteristics. Procedia – Social and Behavioral Sciences, 73:217-223.

Altuntas, S., & Dereli, T. (2022). A Regression-Based "Patent Data Analysis" Approach: A Case Study for "Weapon Technology" Evaluation Process. IEEE Transactions on Engineering Management, 69(6):3874-3886.