

Efficiency Evaluation of Waste Management: A Systematic Literature Review of DEA Applications

Damira Keček¹, Katerina Fotova Čiković¹, Davor Mikulić²

¹University North, Koprivnica, Croatia

²The Institute of Economics, Zagreb, Croatia

ABSTRACT

This paper aims to implement a systematic literature review (SLR) methodology to survey the Web of Science scientific database and review papers with an emphasis on the application of Data Envelopment Analysis (DEA) in the efficiency evaluation of waste management. SLR approach includes the identification, screening, eligibility, and inclusion phase of the relevant papers. The article also provides a theoretical overview of waste management and the DEA methodology. Researching the Web of Science scientific database according to the keywords “waste management”, “waste disposal” and “Data Envelopment Analysis” led to 12 full-text published papers written in English. Qualitative analysis of papers was carried out with an emphasis on the analyzed country, i.e., region, time frame, applied DEA model, and included input and output variables in the model. Research of this type complements the scientific literature on the importance of waste management and provides key guidelines to scientists, policymakers, and authorities on efficient waste management as one of the key problems of today's society.

Keywords: Data Envelopment Analysis, disposal, qualitative analysis, SLR, Web of Science