

Meta-analyses in Operations and Management Research: What can we learn from Medicine?

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Abstract

This paper analyzes the weaknesses of meta-analyses (MAs) in the field of operations research and management using a more mature scientific field as a benchmark and source of inspiration for improvements: the field of medicine. In following this approach, we suggest that there are four areas in which common operations and management MA practices should improve: i) availability of information and replicability of primary research; ii) correct application of statistical support; iii) execution of heterogeneity analyses; and iv) standardization of results reporting. Using a representative study on a management topic published in a reputable journal, we qualitatively identify the aspects that can be improved at each stage of the meta-analytic process as it is applied to management. We show the different results that could have been achieved by following procedures that are standard in the field of medicine, and we propose a standardization of the meta-analytic procedure - beyond statistical analysis - in which we incorporate various 'good practices' used in clinical research. Overall, these recommendations are aimed at improving the transparency, credibility and replicability of the MAs, which not only facilitates the building of cumulative scientific knowledge but also helps to validate the dialogue between academia and practitioners.

Keywords

Meta-analysis – Reporting – Standardization – Operations Research and Management - Engineering

Biography / Biographies

Antonio Sartal is currently a Postdoc researcher in the Department of Mechanical and Industrial Engineering (DEMI) at New University of Lisbon (Portugal) and the University of Vigo (Spain). He managed the Department of R&D of a food multinational for the past ten years, until he recently joined a research team working on technology management and organizational innovation. His research interests include the intersection of lean thinking, innovation management, and information technologies. He has published 13 articles in JCR international journals such as *Supply Chain Management: An International Journal*, *Computer and Operations Research* and *IEEE Transactions On Engineering Management*, among others.

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