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RESOURCE

The characteristics of problem structuring methods: A literature review

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Description / Abstract

Problem structuring methods (PSMs) are a class of qualitative operational research (OR) modelling approaches that were first developed approximately 40 years ago. Different definitions of PSMs have been proposed, some focusing on the types of problems that PSMs typically address, others on how they address these problems. Despite this, there is no clear framework for what characteristics need to be present in an approach to warrant it being regarded as a PSM. This presents a challenge to understanding what constitutes a PSM and the acceptance of new PSMs. This exploratory paper develops a framework from a literature review to identify similarities between PSMs. The framework reflects that PSMs hold different philosophical assumptions to traditional OR and, thus, the framework is structured according to the four pillars of ontological, epistemological, axiological and methodological assumptions an approach makes. Across these assumptions, the framework poses 13 questions to determine if an approach could be a PSM. The effectiveness of the framework is understood by applying it to eight OR approaches to see if it successfully identifies PSMs.

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