Best-worst multi-criteria decision-making method

Decision-making is part of our daily life, where the goal of the decision-maker (DM) is to select a course of action among a set of alternatives. This presentation is about a new method, called best-worst method (BWM), which can be used to solve multi-criteria decision-making (MCDM) problems. In an MCDM problem, a number of alternatives are evaluated with respect to a number of criteria in order to (identify and) select the best alternative(s). For instance, think about:

- selecting the best port among a set of five ports by a shipper considering the criteria 'port efficiency', 'port infrastructure', 'location', and 'port charges';
- selecting the best transportation-mode among rail, road, and sea by a logistics-service provider company considering the criteria 'product characteristics', 'flexibility', 'reliability', 'speed', 'traceability', 'costs', 'safety problems', and 'risks';
- identifying the most important external forces (among the external forces 'economic', 'political', 'competition', 'stakeholders', 'legal', and 'energy transition') affecting supply chain sustainability of oil & gas industry.

BWM is an efficient method which can be used to find the 'best' alternative. The salient features of the proposed method, compared to the existing MCDM methods, are: (1) it requires less data; (2) it leads to more reliable results; (3) it can be used by one DM or a group of DMs.

BWM has been published in Omega; a direct link to the paper:
http://www.sciencedirect.com/science/article/pii/S0305048314001480

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