Making Multi-Objective Decisions

Mansooreh Mollaghasemi and Julia Pet-Edwards

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In five chapters, this book covers thirteen MCDM methods grouped into categories based upon the timing of preference articulation: those with preferences expressed in advance, those done along the way, and those done afterwards. The first category includes the Analytic Hierarchy Process.

The second category includes interactive methods linked to mathematical programming. In the third category, the authors focus on Date Envelopment Analysis which they see more as an aid to further choice as opposed to the identification of a specific alternative. At least one application from the literature is given for each of the methods discussed. In the final chapter the authors discuss the pros an cons of the various methods, including commentary in available software.

Multi-Objective Decision Making. Shimon Whiteson & Diederik M. Roijers. Informatics Institute. University of Amsterdam. July 25, 2015. Whiteson & Roijers (UvA) Multi-Objective Decision Making July 25, 2015 1 / 104. Schedule. 8:45-9:30: Motivation & Concepts (Shimon).Â Why Multi-Objective Decision Making? Decision-support scenario. IQuantifying priorities is infeasible. Multi-Objective Decision Making; Decision Support; Preference Elicitation; Gaussian Processes; Active Learning. 1 INTRODUCTION. Understanding what humans want is an integral part of artificial intelligence (AI), and of central importance when using AI to assists humans in making decisions. Consider tasks like picking which film to watch, or deciding on a route for a road-trip through Europe: the amount of options to choose from is often too large for a human to iterate through, making the search for the best option a possibly cumbersome process. In this case, AI can support â€" and accelerate â€" Multi-objective decisions making is a process of decision making with more than two decision-making goals. The multiple criteria and rules are needed when evaluating and optimizing the decision-making problems. For instance, we consider a variety of factors -- fashionable style, excellent quality and low price -- when buying clothes. This is a simple but common multi-objective decision-.

a Corresponding author: 399909527@qq.com. making case in our daily life.Â The multi-objective decision-making problems can be customarily divided into two categories based on the number of alternatives. One is the multi-attribute decision-making problem with limited number of schemes. The other is multi-objective decision-making problem with infinitely multi-schemes.