

Decision making, decision processes, and decision aid and support

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Abstract: The essence of decision making is dealt with starting with some results of investigations on how many decisions are made by human beings each day. Decision making is then considered, first, from a psychological, cognitive and formal (mathematical) perspective, second, from the perspective of the very purpose exemplified by individual, group, organizational, political, managerial, consumer, etc. The issue of rationality is commented upon. Then, the concept of a decision process is defined to model decision making in complex settings. Emphasis is on formal approaches, and various aspects related to the existence of multiple agents, multiple criteria, dynamics, etc. are considered. A special role of optimization and metaheuristics for the solution is shown and difficulties related to their use for nontrivial problems are considered. Decision aid and decision support systems are advocated as promising approaches for specific problem classes and users.



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