Patent Search

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Abstract:

Abstract Real-world decision-making problems are too complex and ill-structured to use a single criterion, attribute, or perspective to make the best decision. A one-c approach oversimplifies the problem and leads to unrealistic decisions. Consider all relevant factors at once. How can a single evaluation model incorporate multiple, conflicting factors? Is it the best? Statistics, AI, and operations researchers have attempted to answer the first question. Second, evaluate these efforts. Problem-solve differently. Decision makers' preferences, experiences, and policies will affect their judgement. This is crucial for decision-making models. Multiple-criteria decision-m addresses such issues (MCDM). MCDM uses advanced operations research to solve complex decision problems with conflicting criteria, goals, and objectives. Mathen models that aggregate criteria, viewpoints, and attributes support MCDM decision-making. The decision-maker does not passively develop MCDM models. Support m Instead, a decision model iteratively analyses and represents the decision maker's preferences. MCDM's decision-support orientation relies on iterative and interactiv modelling. MCDM differs from statistical and optimization decision-making.

Complete Specification

Description:Field of Invention

The current invention shows the impact of Multi-criteria Decision-Making in Business Management.

Prior Art

Since the dawn of humanity, people have relied on a variety of factors, both explicit and implicit, when making decisions, but there has never been a universally acc mathematical framework for doing so. Pareto was the first to systematically investigate the integration of competing standards into a single rating scale. Additionall pioneered the idea of efficiency, a central tenet of contemporary MCDM theory. Koopmans, working decades after Pareto, introduced the concept of efficient vecto non-dominated set of alternatives. During this same time frame (the 1940s and 1950s), von Neumann and Morgenstern laid the groundwork for another MCDM ap with the introduction of the expected utility theory. Charnes, Cooper, and Fishburn elaborated on these early works' ideas and methods in the 1960s. At the close o 1960s, researchers in Europe's field of operational analysis began conducting serious studies in this area. Roy, the man credited with starting the European branch c MCDM, came up with a fresh theoretical angle using the idea of outranking relations. From the 1970s to the 1990s, MCDM underwent significant development, with formation of scientific MCDM associations and the publication of numerous advances in the international literature on both the theoretical and practical aspects of The proliferation of personal computers, which allowed for the creation of software packages using MCDM techniques, has been immensely helpful to the field. In c put the theoretical gains made in MCDM into practice in user-friendly systems that enable real-time decision-making, multicriteria decision support systems have b developed. These systems use interactive and iterative procedures to improve the decision-understanding maker of the problem at hand, as well as his or her abilit make sound judgments and choices

View Application Status