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Grey Systems Theory in Business Management: Applying Multiple Criteria Decision-Making Methods

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This book is dedicated to addressing the central challenge of making informed business decisions within an environment characterized by uncertainty, employing Multiple Criteria Decision Making (MCDM) methodologies. Chapter 1 provides an overview of the related concepts of grey systems theory. Chapter 2 proposes evaluation criteria for five major themes, including human resource information systems and contractor selection problems. Chapters 3–6 present four improved grey hybrid weighting methods: the grey rank order centroid method, the grey regulatory focus theory method, the grey step-wise weight analysis ratio evaluation, and the grey point allocation weighting method. Chapters 7–10 introduce four improved hybrid grey evaluation methods: the grey weighted sum model, grey relational analysis, the grey regime method, and the grey integer linear programming method. Chapters 11 and 12 discuss additional grey decision-making methods, and conclusions are drawn along with future prospects.

Keywords

grey system theory; MCDM; organizational reputation; contractor selection; business environment; compensation and benefit

