

PREFACE

In the rising trends of information technology, the concepts of uncertainty have started gaining greater importance with time in solving operational research problems in supply chain model, project management, transportation problem, or inventory control problems. Moreover, day-by-day competition is becoming tougher in imprecise environments. For instance, customer demand is often being affected by several varying factors like production price, income level, and the like. In these cases, the demand either remains unfulfilled or is difficult to obtain with certainty in the real-world market. Fuzzy sets are not always able to directly depict such uncertainties because they exhibit numeric only membership functions, whereas neutrosophic sets are found to be more suitable to accommodate inherent uncertainties. Neutrosophic Set is a Generalization of Intuitionistic Fuzzy Set, Inconsistent Intuitionistic Fuzzy Set (Picture Fuzzy Set, Ternary Fuzzy Set), Pythagorean Fuzzy Set (Atanassov's Intuitionistic Fuzzy Set of second type), q-Rung Orthopair Fuzzy Set, Spherical Fuzzy Set, and n-HyperSpherical Fuzzy Set, while Neutrosophication is a Generalization of Regret Theory, Grey System Theory, and Three-Ways Decision. These different uncertain systems can handle higher levels of uncertainty in more complex real world problems.

Neutrosophic sets and logic are gaining significant attention in solving many real life problems that involve uncertainty, impreciseness, vagueness, incompleteness, inconsistency, and indeterminacy. A number of new neutrosophic theories have been proposed and have been applied in computational intelligence, image processing, medical diagnosis, fault diagnosis, optimization design, and so on.

The main objective of this issue is to understand the applicability of Multi-Criteria Decision Making (MCDM) and neutrosophic theory in operations research and also to know the various types of Neutrosophic Optimization and Neutrosophic Mathematical Programming Models.

This special issue will explore the possibilities and advantages created by Multi-Criteria Decision Making (MCDM) and neutrosophic tools, through both the presentation of thorough research and case studies.

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