Decision Making Aggregation Operators

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Abstract

Nowadays there are distinguished from the Decision Making Aggregation Tools so-called OWA type operators, which make aggregations of the objective uncertainty and probabilistic environment in the classical variety. We will develop a new generalizations of OWA type operators, when the poles of uncertainty and inaccuracy will be presented in the fuzzy environment such as Fuzzy Uncertainty case. It includes to performance data in Fuzzy Triangular or Fuzzy Trapezoidal Numbers. Fuzzy Uncertainty pole will be presented with such Monotonous (Fuzzy) Measures such as: Possibility Measure, Dempster-Shafer Belief Structure, Sujeno λ Measures etc.

Will be explored the decision making aggregation operators. Will be discussed as well as modern scientific literature over the past few years. Emphasis will be made on the OWA type aggregation operators and its generalizations in the uncertainty environment, where the inaccuracy of the expert information will be presented with Fuzzy Values and the uncertainty measure is taken as a monotonous fuzzy measures. Will be built information measures of OWA type operators such as: ORNESS, BALANS, DEV, ENT etc. Will be explored their analytical properties and aspects of their use.

Will be created the Intelligent Software Product designed to be driven decision-making on strategic management issues in uncertainty environment. The fundamental and applied aspects of systems will be based on the analytical and synthesis tasks of OWA type generalization operators developed by us.

This thesis has been made for the purpose of obtaining Seminar's credits of PhD Programm's student. It's reviews the problems of the introduction of the doctoral project about the initial questions such as (Primary types of the initial research): Decision Making Aggregation Operators; OWA-type Decision Making Aggregation Operators and its extensions. There has been presented one interesting task of the DM for the illustration, which is based using the Dempster-Shafer Structure and the UIOWA and the UIHA operators.