

**OCTAGONAL FUZZY CHOQUET INTEGRAL OPERATOR FOR  
MULTI-ATTRIBUTE DECISION MAKING**

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ABSTRACT. This paper introduces two types of aggregations, namely the octagonal fuzzy weighted averaging(OFWA) operator for non-interactive aggregation and octagonal fuzzy Choquet integral(OFCI) operator for interactive aggregation. The paper emphasis the use of octagonal fuzzy number as a general case of some well known linear fuzzy numbers. Procedure for solving multi-attribute decision making(MADM) problem using OFWA and OFCI operators are described and algorithms for the same are presented to handle large data. Finally, an illustrative example is provided to demonstrate the application of the OFCI operator in MADM problem.

**Keyword:** Octagonal fuzzy number, Choquet integral, aggregation, MADM, algorithm