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**TITLE:** APPLICATION OF FUZZY MULTI-CRITERIA DECISION MAKING METHODS ON SIX SIGMA PROJECTS SELECTION

## **ABSTRACT**

Six sigma method, which has a widespread area of use in production and service sectors, is known as a project-oriented method. In six sigma method, selection of the prior project among others can be considered as a multi-criteria decision-making problem. The conducted literature review has showed that there are a large number of methods for the selection of six sigma projects. It would be more appropriate to use fuzzy logic methods in project selection since evaluation criteria of six sigma projects include uncertainties. In this study, it is aimed to select the most appropriate project as a result of evaluating the projects by Fuzzy VIKOR, Fuzzy TOPSIS and Fuzzy COPRAS as methods of fuzzy multi-criteria decision-making and integrating the ranking scores obtained from each method by Copeland method. The proposed method has been implemented in a large scale production company, operating in Aydın ASTİM Organized Industrial Zone.

**KEYWORDS:** Six Sigma Projects, Fuzzy VIKOR, Fuzzy TOPSIS, Fuzzy COPRAS, Fuzzy AHP, Copeland Method