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COMPARATIVE ANALYSIS OF FUZZY MULTI-CRITERIA DECISION MAKING FOR LOCATION SELECTION OF TEXTILE PLANT IN TURKEY

Abstract:

Due to the increasing competition in the market, taking right decisions about the location selection for businesses is very important. The wrong choice of location for businesses may cause to large losses even bankruptcy. Textile sector is the first sector for which the location selection is quite important. The location selection of a textile factory is generally one of the most important decisions. The textile sector is considered the locomotive of domestic trade in Turkey. The purpose of this study is to describe the application of two Fuzzy Multi Criteria Decision Making (FMCDM) methods named Fuzzy TOPSIS and Fuzzy VIKOR for solving location selection problem of textile factor, which is located in Istanbul European side and looked for second location in Turkey. We used twelve criteria for FMCDM, which are determined from literatures and practical investigations. The methods of fuzzy set theory, linguistic value, Fuzzy TOPSIS and Fuzzy VIKOR are used to consolidate decision-makers' assessments about criteria weightings. Besides a sensitivity analysis is carried out for the Fuzzy TOPSIS method.

Keywords:

Location selection, Multi criteria decision making, Fuzzy TOPSIS, Fuzzy VIKOR, Textile Factory.

JEL Classification: C00, M11