

AN INTELLIGENT POSSIBLE LINEAR PROGRAMMING (IPLP) APPROACH FOR MEASURING PERFORMANCE VARIABLES UNDER MANUFACTURING ENVIRONMENT

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Abstract

The objective of this paper is to establish the usefulness of the suitably designed modified S-curve membership function in a product-mix problem with continuous variables. Fuzzy parameters of linear programming (LP) are modelled by non-linear membership function (MF), such as the S-curve function. A numerical real-life example of product-mix problem is presented. The computational results illustrate superiority of the intelligent possible LP (IPLP) technique in optimizing individual objective functions compared to crisp LP approach. Furthermore, for the problem considered, the optimal solution helps to conclude that by incorporating fuzziness in an LP model in objective function and constraints, it will provide a better level of satisfactory solution compared to crisp LP.