On Possibilistic Multi-Objective Multi-item Solid Transportation Problems

International Journal of Computer Applications
© 2015 by IJCA Journal

Volume 114 - Number 13
Year of Publication: 2015

Authors:
H. A. Khalifa

10.5120/20037-1725
{bibtex}pxc3901725.bib{/bibtex}

Abstract

The solid transportation problem (STP) arises when bounds are given on three item properties. These properties are usually: sources destination and type of product or mode of transport. In this paper, a possibilistic multi-objective multi-item solid transportation problem (Poss MOMISTP) is studied. The problem is considered by incorporating possibilistic data into the objective functions coefficients. The efficient solutions and the stability of Poss MOMISTP problem are investigated. The concept of -Possibly efficient is introduced in which the ordinary efficient solution is -tended based on the -level of possibilistic variables. A necessary and sufficient condition for such solution is established. A relationship between solutions of possibilistic levels is constructed. The stability set of the first kind corresponding to one solution of the -level of possibilistic variables is determined. An illustrative numerical example is given in the sake of the paper to clarify the obtained results.

References


Index Terms

Computer Science          Applied Mathematics

Keywords

Multi-objective multi-item solid transportation problems; Possibilistic variables; possibly efficient; Parametric analysis.