Jaruwan Keawsandsound 2012: A Stochastic Linear Assignment Problem. Master of Engineering (Industrial Engineering), Major Field: Industrial Engineering, Department of Industrial Engineering. Thesis Advisor: Associate Professor Peerayuth Charnsethikul, Ph.D. 136 pages.

The objective of this research is to develop a stochastic linear assignment model that merges of uncertainties jobs-resources pair assignment with their corresponding risky cost to the linear assignment model. The two-stage model approach of Dantzig (1955) is used which classifies as one of a stochastic linear assignment problem. The proposed model is tested by a state of the art software EXCEL/solver-Gurobi 2010 version. The sizes of test problem are increased until unsolvable cases are detected. There, Bender's Decomposition method is applied written in MATLAB R2010b to solve these cases. The experimental result is that the method is capable to expand the size of problem solving capabilities especially in the case of more than one-million decision variables involved.

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