

A DISTRIBUTION MANAGEMENT MODEL INTEGRATING DISCOUNT DISTRIBUTION REQUIREMENTS PLANNING & VEHICLE ROUTING PROBLEM WITH T

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ABSTRACT

In this research, we consider a management model in which a distribution requirement planning (DRP) model and vehicle routing planning (VRP) model are integrated with minimization of total cost objective. The quantity discount and time window constraints are taken into account during integrated model construction. The research is completed in the two ways: one is using the 0-1 mathematical programming for model development; however, the mathematical programming model can not get a optimal solution in a reasonable running time, the heuristic algorithm is, thus, employed to reduce the running time consumption. The example illustrations show that the construct heuristic performs well both in the solution quality and efficiency.

Keywords : Distribution Requirements/Resource Planning ; Quantity Discount ; Vehicle Routing Problem with Time Windows ; Heuristic

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