

ABSTRACT

PT. XYZ is a company who specialize in manufacturing of spare parts and motorcycle component. This company is located in Cimahi, Jawa Barat and started to operate in 1969. They have inventories room for saving raw materials and finish good to be distributed to out of Bandung. PT. XYZ run into delays of delivery frequently until causing the increase of delivery costs that must be issued by the company. This research aims to make route which can minimize the total of transportation costs.

The problems that occur in this company is general problem in transportation sector who can be completed with Vehicle Routing Problem. In PT. XYZ, the category of VRP that can be used are VRP with Heterogeneous Fleet, VRP with Time Windows and VRP with Split Delivery. This problem will be finished by using Tabu Search Algorithm and Nearest Neighbour Algorithm as first solution to be included into the Tabu Search Algorithm.

The VRP that use Tabu Searh Algorithm is capable to make route which can minimize the total of transportation cost 33% from existing condition relatively.

Keywords: *Vehicle Routing Problem, Heterogeneous Fleet, Time Windows, Split Delivery, Nearest Neighbour Algorithm, Tabu Search Algorithm*