ABSTRACT

PT XYZ is the dealer of one of the large companies engaged in the automotive field. The company has three core business is sales, after sales, and the provision of spare parts. One of the core business of PT XYZ is the provision of spare parts, which in the logistics side is supported by regional parts depos or Distribution Center. Regional parts depos problems that occurred in PT XYZ company is not able to distribute its products on some consumers due to delay in delivery is due to a less than optimal route determination, based solely on intuition driver..

This study discusses the basis of the characteristics capacitated VRP, the time window, multiple products and compartments with the aim of minimizing the total cost of transportation. VRP into the hard-combinatorial problems with NP-hard characteristic that generally VRP metaheuristics solved by methods such as Harmony Search algorithm is used also in this study. The algorithm starts with the generation of the initial population by using the nearest neighbor algorithm is then optimized using algorithms Harmony Search..

The results of this algorithm can optimize the mileage, number of visits, and minimizing the total cost of transportation. From the results of measurement of the day consisted of five departures a decrease these costs by 15% or Rp103,415.00.

Keywords: Transportation, Distribution, Vehicle Route Planning, Harmony Search Algorithm, Nearest Neighbour Algorithm, Time window, Multiple Product and Compartment.