IMPLEMENTASI ALGORITMA GENETIKA PADA *CAPACITATED VEHICLE ROUTING PROBLEM*

ABSTRAK

Capacitated Vehicle Routing Problem (CVRP) dapat dideskripsikan sebagai permasalahan pendistribusian barang dari sebuah depot ke sejumlah konsumen. Tujuan penyelesaian CVRP yaitu untuk menentukan rute optimal bagi setiap kendaraan agar menghasilkan biaya perjalanan seminimum mungkin. Pada penelitian ini Algoritma Genetika diimplementasikan untuk penyelesaian CVRP. Algoritma Genetika bekerja dengan cara merepresentasikan kromosom, membangkitkan populasi awal, menghitung nilai *fitness*, seleksi, *crossover*, dan mutasi. Hasil implementasi model CVRP dan Algoritma Genetika pada masalah pendistribusian es krim di sebuah perusahaan di Kota Bandung menunjukan bahwa Algoritma Genetika dapat menyelesaikan masalah pendistribusian dan mampu memberikan solusi yang cukup baik

Kata Kunci: Algoritma Genetika, *Capacitated Vehicle Routing Problem* (CVRP), Solusi Optimal, Pendistribusian.

IMPLEMENTATION OF GENETIC ALGORITHM IN CAPACITATED VEHICLE ROUTING PROBLEM

ABSTRACT

Capacitated Vehicle Routing Problem (CVRP) can be described as a problem to distribute a number of goods from a depot to a number of customers. The CVRP is solved to determine the optimal route for each vehicle in order to obtain the minimum costs. In this research, Genetic Algorithm is implemented to solve CVRP. Genetic Algorithm works by representing chromosomes, generating initial populations, calculating fitness values, selection, crossover, and mutations. The computational results show that the model and Genetic Algorithm can solve the the ice cream distributed problem of a company in Bandung and give a good solution.

Key words : Genetic Algorithm, Capacitated Vehicle Routing Problem (CVRP), Optimal Solution, Distribution.