ABSTRACT

PT Sinar Sosro as one of the major companies engaged in bottled tea drinks is the first in Indonesia. One of the products produced is teh botol sosro. In the product distribution process, companies do not calculating mathematically, is so that required by a matured calculation so that to be existing distribution process become more optimal.

The purpose of this study is to determine toursequence on distribution process to obtain tourwhich give the expense of minimum and also time using genetic algorithm approach. Data used in this research are the processing time (processing time) for each customer, data time window, travel distance, vehicle's velocity, demand, and transportation cost. Searching the solution begins with initializing the population of the size of the population that had been entered, using sequential insertion mechanism. Then evaluate each individual and calculate the fitness value that be objective function. The next step is to do elitist process that take 50% individu from previous generation.Then go to crossover process which are cross-changes and mutation. Those steps are repeated up to meet the stop condition, the maximum generation is the stop condition used in this study.

Genetic algorithm of the output from a sequence of tour that are adjusted with the minimum cost and duration time. Existing tour has a Rp. 1.168.396,25 cost*, while the solution obtained from the genetic algorithm approach in this study resulted*Rp. 1.086.338,75. *Total duration time from existing tour has a 48 Hours 57 Minutes and the solution of genetic algorithm approach has 42 Hours 54 Minutes*