ABSTRACT

Transportation and distribution are activities delivering goods from a starting point to another point. Transportation and distribution is an important factor in logistic and supply chain. The increasing cost of transportation in activities logistic making many company must determine the policy of distribution more efficient.PT XYZ is a multinational pharmaceutical company and grew into a general distributor, not only in the product an ethical but also a variety of consumer products, pharmaceutical industry, cosmetic, and food industries. The company has a warehouse as a storage area for goods and will distribute the goods to areas in Bandung city and outside the city of Bandung. PT XYZ has a customer for an ethical starting from hospitals, pharmacies and small outlets spread across parts of the region.The problem is PT XYZ cannot distribute all requests to customers and raises the higt cost of transportation. This research aims to minimizing the frequency of delays in PT XYZ to distributing the goods and minimizing the cost of transportation.

This research discusses the basic characteristic of the VRP with the time window, multi trip and multiple products. These characteristics indicate that the VRP is happening at PT XYZ quite complex, so this problem is solved with met heuristic approach as Tabu Search Algorithm. The algorithm begins with the generation of the initial population by using the nearest neighbor algorithm which is then optimized using the algorithm of Tabu Search

The results of this algorithm can be minimized a distance, travel time, minimizing the cost of transportation up to 6.17%.

Keywords : Transportation, VRP, Multiple Products, Time Window, Multi Trip, Nearest Neighbor Algorithm, Tabu Search Algorithm