

ABSTRACT

Supply chain management is anything that has a connection from various existing business sources, both within the company and outside the company to get a system that dares to compete and create a flow of products and information. Transportation of products is the activity of moving goods from one place to another, the transportation of goods requires a tool that is in accordance with the needs to support the continuity of operations and timely. Transportation within SCM accounts for up to 60% of total logistics costs. Therefore, the need for the company has a good and correct transportation system. PT XYZ is a Distribution Center special chemist pharmacy Kimia Farma in Bandung area. PT XYZ has problems in the distribution process that there is still delay in delivery to the customer because there is no proper route configuration. This delay resulted in increased transportation costs borne by PT XYZ.

Such problems are called Vehicle routing problem (VRP) which is the determination of the vehicle route for distribution with various limitations. In this study, the limitations used are having a fleet of different capacities (heterogeneous fleet) and have a clock service (time windows). In solving this VRP problem, a branch and bound algorithm is used to generate a solution.

The result of this algorithm determination gets the optimal route configuration so that the delay problem can be overcome and decrease the transportation cost by 2%.

Keywords: VRP, Windows Time, Heterogeneous fleet, Branch and bound Algorithm.