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PT. XYZ is a distributor of a corporation that engaged in the food and beverage industry sub sector. Based on data of PT. XYZ during July-December 2016, there is a problem where not all demand can be fulfilled in time. The target is 7%, but only in July exceeds the target. This problem is caused by several causes where the most influential is the delay of the fleet arrives at the customer. This cause occurs due to long travel time due to inaccurate route determination.

This problem is a common problem that often occurs in the field of transportation where the fleet is used more than 1, then this problem needs to be solved by approach Vehicle Routing Problem (VRP). Characteristics of VRP in this research is time windows. For the solution used with metaheuristic approach that is Alogaritma Tabu Search. This study uses Nearest Neighbors Alogaritma as the initial solution generator which is then used on Tabu Search Alogaritma.

VRP approach with Tabu Search Algorithm approach can reduce total travel time by 12.3% from initial condition and all demand can be fulfilled without experiencing delay.

Key Words: Transportation, Distribution Center, VRP, Time Windows, Nearest Neighbour Alogaritm, Tabu Search Alogaritm