

## ***ABSTRACT***

PT. XYZ is a company or automotive manufacture that produces four-wheeled vehicles. The plant is located in Bukit Indah Industrial Cikampek. Frequent occurrence of late arrival is high and accumulation of truck incoming to deliver raw materials from suppliers to PT. XYZ, each supplier from about 50 suppliers send one truck or commonly referred to as direct delivery systems to deliver raw materials led to disruption of the production process.

The steps are then carried out by applying milkrun system in order to solve problems that previously occurred and optimize transportation cost of the raw materials delivery. The first thing to do is to calculate the cost of transportation procurement distribution of raw material in actual condition. Further grouping of suppliers into some rayon. Then do the VRP calculation for decide the pick-up route for each supplier that already rayonitated. After that calculated milkrun transportation costs if the system is applied in this study obtained two results of the calculations are direct milkrun and milkrun use the warehouse.

Results from cost calculations that previously done then compare to see if the milkrun system is appropriate used to solve the problem. From the comparison results obtained that milkrun transportation systems costs are 51.7% cheaper and more reliable because in terms of the number of trucks used, distance traveled, and the number of routes a decline in the appeal of the transportation system are performed on actual conditions.

Keywords: Raw material, Supplier, Direct Delivery, Milkrun, VRP, Transportation costs.