

## **ABSTRACT**

*PT.XYZ is a production company that produces snacks and beverages which engaged in Fast Moving Customer Goods (FMCG). The company has 22 factories, 6 distribution centers, and more than 100 depots spread around Indonesia. One of the factories that owned by PT.XYZ is called PTF. PTF produces various types of beverages.*

*One of problems in PTF is that the company cannot fulfill demands from their depots, it was called loss sales. It is because there is lack of capacity that affected by the allocation of the products to the trucks, which have to be in full truck conditions. The region of depots that has small percentages of fulfillment their demands is region Jabar 1.*

*In this study by considering the result from distribution planning and scheduling, and the capacity of the trucks and also the route, the design solution search by designing the allocation of volume shipments with full truck conditions. This study discusses the routing design with Clark and Wright method and allocation products to trucks with Linear Programming algorithm.*

*The results of this study are decreasing of loss sales up until 96% for all depo in Jabar 1, so the percentage of fulfillment orders is more than target of company, which is 98% and the total distribution cost decrease until 53% and the optimum route for transportation to do the multi trip.*

*Keywords : FMCG, Transportation, Distribution, Routing Design, Clark and Wright Method, Linear Programming, Multi Trip, Full Truck.*