

ABSTRACT

This final project focuses on the problem of financing the distribution of shipments and/or withdrawals of the Unilever Business Unit, PT. Pos Logistik Indonesia, which handles the distribution of refrigeration units from Unilever products, namely the Seru! variant of ice cream. The unbalanced ratio of financing for existing routes is due to the financing agreed by Unilever's Business Unit with vendors providing transportation modes, which are determined on a per transport unit basis, so there is an opportunity to get cheaper financing.

These problems are included in the problem of determining vehicle routes or the Vehicle Routing Problem Pick-up and Delivery (VRPPD) due to requests for delivery and/or withdrawals. The solution used in solving the problem is the mathematical modeling of Integer Linear Programming (ILP) because it has the advantage of being able to guarantee the optimal objective function is obtained.

The results of this final project are in the form of financing based on the radius of the distance between the customer's destination and the delivery warehouse depot, the results obtained indicate that there is a decrease in financing compared to existing financing up to 37.4%. The results of the proposed financing in its implementation need to consider various relevant aspects.

Keywords — Vehicle Routing Problem, Pick-up and Delivery, Integer Linear Programming