

## **ABSTRACT**

*In the distribution channel, the company does not have an optimal path because when customers order products to Plant I, and vice versa My Plant only has a portion of customer orders, therefore, from customer purchases requested by Plant II, this causes the costs of shipping products to be increased or erratic because the product distribution route is still not in accordance with the purpose of this study is to produce an optimal distribution channel with a minimum cost. The method used to solve this problem is the Multi Commodity Flow method with the aim of getting the shortest path with the minimum cost.*

*The results of this study produced a total cost of Rp. 1,170,878 or a 64.61% decrease compared to the total initial cost, while the initial conditions reached a total cost of Rp 3.309.090.*

*The use of the multi commodity flow method is to determine distribution channels by obtaining minimum costs and obtaining more optimal routes than the initial requirements. This is evidenced by the total distribution costs that are more minimum compared to the initial needs.*

*Keywords: Multi Commodity Flow, Distribution Channels*