OPTIMIZATION OF NUMBER OF WAREHOUSE DETERMINATION
BASED ON TYPE AND KIND FOR MAXIMIZE PROFITS IN WAREHOUSE
PROJECT

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ABSTRACT

PT. Anugrah Karya Sahabat Sejati is a developer of warehouse area in Surabaya. Warehouse building which is currently being developed based on the type and the type of warehouse. There are two types of warehouses, namely single-storey warehouse and two-storey warehouse. Warehouse types associate with land use, which has four types of area. Extent of land to be developed is 18 hectares. The problem is how to determine the type and mix of warehouses based on the type of warehouse that can be built to maximize the desired benefits to be achieved. The constraints that must be considered are the overall land area constraint and the percentage of land area for each type and kind of warehouse.

To resolve the above issues, in this research method of Integer Programming will be used. The first phase that will be done is to define the decision variables. The second phase is to establish the objective function, which the main purpose is to maximize the benefit that can be achieved based on the type and the kind of warehouse that can be built on the land.

The results of data processing show that the maximum percentage of profit gains 30% of the total sales of the warehouse is Rp. 402,152,000,000.00 (more leverage than the percentage gain of 25% and 20%). mix composition warehouses that was built based on the type and kind are X113, X123, X133, X253, X263, X273, X273 and X283. Optimal land area that can be used is 12.6 ha.

Keywords: warehouse types, integer programming, maximize profits, kind of warehouse.