

ABSTRACT

PT XYZ is distributor that focused on distributes floor and wall tiles ceramic. PT XYZ has its own warehouse for storing finished good with Last In First Out (LIFO) rotation. PT XYZ warehouse has area of 12,312 m² with floor stack system based on the block. The issued that currently arised is warehouse condition which is overcapacity so several SKUs is stored out of the block even placed outside the warehouse. The impact of overcapacity are accessbility problem, storage and retrieval activity is hampered, and damaged product. In addition, the allocation of higher throughput items was not placed near to the input/output point so the material handling went through long travel to do its activity and it caused higher total travel distance. This research focuses on determining the warehouse layout to increase warehouse storage capacity and reduce travel distance. The procedure to solve the issue will be done by redesign warehouse layout with heuristic approach method. The objective is a combination of lanes depths and storage zones to increase the warehouse storage capacity by considering throughput of each SKU. The next step is allocate the items so it can reduces the monthly travel distance. Based on proposed design layout, obtained the warehouse capacity increase by 35.53% or as much as 5,319 pallet positions and monthly travel distance is decreased by 24.58% or 216,032 meters.

Keywords: Warehouse Layout, Heuristic Approach, Travel Distance