ABSTRACT

PT. XYZ is a 3PL company located at Cikarang, Jawa Barat. PT. C is one of the PT.XYZ's customer that produce car spare part with a lot of different type and brand. PT. C's materials that stored in PT. XYZ's warehouse are tubes for producing those car spare part. In the current condition, tubes storing system at PT. XYZ using stacking system. This storing system causing overcapacity at PT. C's fix space area from January 2014 to March 2014. Because of overcapacity, PT. C need to increase the storing space at PT. XYZ's warehouse which will need more cost. As for PT. XYZ, the increase of storing space for each customer will increase the maintenance easibility and resource needed to maintain the materials.

To solve this problem, the tubes storing system at PT. XYZ's warehouse will be changed to racking system. Using this storing system, it can utilize more of space, so that the PT. C's fix space utilization will increase. Along with the change of the storing system, the new design rack for tubes storing will be needed. The new design is needed because the new rack should adjust to the current condition in PT. XYZ's warehouse like the stored materials, building sturcture, and material handling used at PT. XYZ.

Using Axiomatic Design method, the functional requirements of the rack could be generated, then the next step is to determine the design parameters that fullfilled the need of the new rack design. When there are any contradictions so that the independence axiom of Axiomatic Design can not be fullfilled, the TRIZ's contradiction matrix will help to solve the contradiction. The expected result is proposed design of PT. C's tubes storing rack at PT. XYZ's warehouse.

Key Words: Third Party Logistics, Overcapacity, Space Utilization, Product Design, Axiomatic Design, TRIZ