ABSTRACT

Adorable Projects is a micro, small and medium enterprise that sells women's fashion such as footwear, bags, clothes and accessories which has 30 vendors, has 500 types of products, has ± 70,000 SKU (Stock Keeping Unit) and also collaborates with small-scale home craftsmen who are specialized in make to stock products. Adorable Projects has a warehouse with an area of 676 m2 to store products. In the process of storing products in the warehouse, Adorable Projects has not utilized the warehouse space optimally. When viewed from the number of storage racks available, the Adorable Projects warehouse experiences an overcapacity of 32% with the total available rack capacity of only 4,004 units while the highest stock in the Adorable Projects warehouse is 5,928 units.

The purpose of this research is to reduce overcapacity in the Adorable Projects warehouse. In addition, this research also aims to increase utilization in the Adorable Projects warehouse. The method used in this research uses the shared storage method. The selection of the shared storage method in this study is because it refers to the problems found in the Adorable Projects warehouse, namely the storage system in the Adorable Projects warehouse is carried out by placing goods randomly and the validation used in this study uses a discrete event simulation to see the time of order picking activities after storage allocation with shared storage.

Based on the results of this study, the addition of seven shelves can increase the shelf capacity which previously could only store 4,004 product units to 6,006 product units. Thus, the previous overcapacity of 32% can be resolved because with the proposed conditions the highest stock number of products of 5,928 units can all be stored on storage shelves. This proposed condition can also increase warehouse utility from 55.5% to 58.5%. In addition to adding shelves, this study also conducted storage allocation using the shared storage method so as to reduce the distance of material handling movements which previously had a distance of 1736.7 meters to 632.7 meters. The result of the difference from the

existing displacement distance with the proposal can minimize the time of order picking activities by 121.62 minutes.

The benefit of this research is that it can help the Adorable Projects warehouse in solving the overcapacity problem in the warehouse. In addition, by overcoming overcapacity in the Adorable Projects warehouse, it can facilitate pickers in carrying out order picking activities.

Keywords: shared storage, overcapacity, utilization, warehouse