ABSTRACT

PT. XYZ is a manufacturing and distribution company that runs in paint industry & chemical construction. PT. XYZ owns a raw material warehouse which is called water base warehouse that function is to store raw material before delivery to the production floor. Water base warehouse consists of liquid sub-warehouse, filler, solid unit, and glue. The storage system is using floor stacks. However, a problem occurs in raw material delivery time to the production floor is delayed, causing the standard time exceeds what the company has agreed before, which is 45 minutes. Delay is happened caused by picking activity—searching process of raw material in storage. Besides, random allocation of raw material becomes one of reasons that confusion occurs in the order of raw material placement.

Preliminary stage to solve the problem is by describing information flow that occurs in the water base warehouse using Value Stream Mapping (VSM) and detail mapping. The activity flow will be described in detail to obtain process time and the value of each activity. It is known that the biggest NVA score is picking activity. In order to solve the problem, clarification of raw material is conducted by doing FSN analysis, slotting and zoning to determine raw material placement area based on clarification and the shortest distance from I/O door. After that, traveling simulation is done by doing output analysis and comparison system.

Based on the result of future state mapping for the storage allocation design proposed, it is acquired that the decrease of delay time by 12% of the overall process which is 78,87 minutes down to 61,47 minutes. Besides, there is an increase in value added score by 10% and a decrease in picking order time, which is 58,14 minutes down to 43,67 minutes.

Keywords : Warehouse, Value stream mapping, FSN *analysis, Warehouse Slotting*