

ABSTRACT

PT.Eksonindo Multi Product Industry is one of the manufacturing company that produces bags. The brand that will be the main object of this research is Exsport brand. In production process of bags there was found waste transportation that influence the production cycle time. Based on the data obtained, waste transportation is caused by poor layout. It can be seen from related workstations that located far apart. In addition, lacking access of logistic and material handling with a large load units also lead to waste transportation. Therefore, improvement recommendations are needed to be made in order to minimize waste transportation and reduce production cycle time.

In order to minimize waste transportation, is used lean six sigma method. Steps that taken following the stages of DMAI (define, measure, analyze, improve) as well as the use of lean tools to do the repair process. In the define phase, SIPOC diagram and value stream mapping are made. Phase of measure consist of depiction existing layout with spaghetti diagrams and calculation of the total distance moving materials between workstations. In Analyze stage is determine the root cause of the problem by using the 5 Why's. Phase of improve is the making of improvement recommendation as the results of the analyze phase to minimize waste transportation that affect bag's production process.

Based on the results of the analyze phase, is known that the root causes of waste transportation are arrangement of workstation that didn't adjusted to production process flow, sewing operators who used to only use one spesific sewing machine, lack of access from logistics to production floor and unit load of material handling that didn't adjusted to machine capacity. Furthermore, in the improve stage, is given the improvement recommendation to handle the root causes of waste transportation, such as : adjacent the related workstations, implement job rotation for sewing line operator, make counter in logistics as a material transfer access and use of material handling with unit load that adjusted to machine capacity.

Keywords : Lean six sigma, waste transportation, DMAI, value stream mapping, 5 Why's, layout, material handling