

ABSTRACT

PT Pindad is a company that produces military and several commercial products. One of the products is a distributor-valve which is one of the components in an air brake system. Based on historical data, the delivery of products to customers often had delays. Therefore, the research was conducted in the production process of the distributor-valve using the lean six sigma approach. Motion waste was detected as the most waste in the process. The production data were processed by DMAI (Define, Measure, Analyze, and Improve). SIPOC diagram and Value Stream Mapping (VSM) were used to identify the key process of the production process. Process Cycle Efficiency (PCE) was calculated in the measure stage, which was 54.21% and total lead time 272.64 minutes. Fishbone diagram was used to analyze the root cause of motion waste. Based on the fishbone diagram, it was known that the causes of motion waste in the production process consist of the human, tools, materials, and environment factors. The root causes of this waste can be minimized by applying the 5S principles on the production floor and making a toolbox and storage rack for components. They could decrease lead time by 20.26 minutes.

Keywords—Lean Six Sigma, E-DOWNTIME, SIPOC, VSM, 5S