ABSTRAK

CV Bonjor Jaya Utama perusahaan manufaktur pengecoran logam. Produksi pulley setiap minggunya rata-rata 600 pulley, sementara permintaan 690–875 pulley/minggu. Pemenuhan kekurangan 90–275 pulley, dilakukan dengan menambah jam kerja proses machining. Kecacatan produk setengah jadi pada lantai produksi mengakibatkan proses tambahan dan proses ulang. Hal tersebut berdampak pada kekurangan produk jadi dan mengakibatkan resiko penurunan kepercayaan pelanggan.

Penelitian ini bertujuan untuk mengidentifikasi waste dan mengusulkan perbaikan proses produksi dengan pendekatan lean manufacturing. Metode yang digunakan adalah pengukuran waktu kerja menetapkan waktu baku, Value Stream Mapping menemukan waste dalam value stream, Waste Assessment Model mengidentifikasi waste, Value Stream Analysis Tools memilih mapping tools dalam analisis waste, usulan perbaikan proses produksi, dan membuat model siumlasi mengtahui hasil perbaikan.

Hasil pengolahan data dan analisis hasil, menghasilkan waste terbesar yaitu waste defect 21,73% dan waste motion 18,36%,. Detail mapping tools terpilih yaitu Process Activity Mapping 525,77, Supply Chain Response Matrix 304,27, dan Quality Filter Mapping 215,46. Perbaikan waste defect menggunakan metode Six-Sigma DMAIC dan waste motion dengan usulan Standard Operation Procedure. Hasil rekomendasi perbaikan disimulasikan, output simulasi usulan perbaikan dengan 16 replikasi sebesar 751 pulley/minggu, menunjukan bahwa peningkatan hasil produksi setelah waste dihilangkan.

Kata Kunci: *Lean Manufacturing, Value Stream Mapping, Waste Assessment Model, Value Stream Analysis Tools*

ABSTRACT

CV Bonjor Jaya Utama a metal casting manufacturing company. Pulley production a week averages 600 pulley, while demand is 690–875 pulley / week. Fulfillment of 90-275 pulley deficiencies is done by increasing the working hours of the machining process. Semi-finished product defects on the production floor result in additional processes and reprocessing. This has an impact on the shortage of finished products and results in a risk of decreasing customer trust.

This study aims to identify waste and propose improvements to the production process with a lean manufacturing approach. The method used is working time measurement specifies the standard time, Value Stream Mapping finds waste in the value stream, Waste Assessment Model identifies waste, Value Stream Analysis Tools selects mapping tools in waste analysis, proposals for improving the production process, and makes slilation models know the results of improvements.

The results of data processing and results analysis, produce the biggest waste, namely 21.73% waste defect and 18.36% waste motion. Details of selected mapping tools are 525.77 Process Activity Mapping, Supply Chain Response Matrix 304.27, and Quality Filter Mapping 215.46. Waste defect improvement uses the DMAIC and waste motion Six-Sigma methods with the proposed Standard Operation Procedure. The results of the repair recommendations are simulated, the simulation output of proposed improvements with 16 replications is 751 pulley / week, indicating that the increase in production results after waste is removed.

Keywords: *Lean Manufacturing, Value Stream Mapping, Waste Assessment Model, Value Stream Analysis Tools*