

ABSTRAK

ANALISIS PENYEBAB PRODUK CACAT MENGGUNAKAN METODE SIX SIGMA PADA PRODUKSI MAIN BEARING CASE

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PT. Surya Gemilang Engineering adalah perusahaan manufaktur yang bergerak di bidang job order dan mass production. Berdasarkan hasil observasi, ditemukan dua penyebab cacat, cacat sebelum produksi dan cacat setelah produksi. Penelitian ini bertujuan mengidentifikasi penyebab cacat dan mengevaluasi penerapan metode Six Sigma. Metode yang dipakai yaitu Six Sigma digunakan melalui tahapan DMAIC (Define, Measure, Analyze, Improve, Control) untuk meminimalkan produk cacat. Dari hasil analisis diketahui bahwa nilai presentase cacat faktor Manusia sebesar 33,33%, Mesin sebesar 33,33%, Metode sebesar 16,67%, Lingkungan sebesar 16,67%. Mengenai nilai sigma dan DPMO. Didapatkan hasil perhitungan DPMO sebesar 2.49602 yang dibulatkan menjadi 2.50. Dari permasalahan tersebut di berikan usulan perbaikan menggunakan proses activity mapping dan value stream mapping di dapatkan aktivitas sebanyak 23 aktivitas. Dan total lead time awal dari 1550 detik menjadi 1520 detik. Sehingga Proses cycle efficiency meningkat menjadi 49% yang sebelumnya sebesar 48,06%.

Kata Kunci: Kualitas, Defect, Six Sigma, DPMO, PAM, VSM

ABSTRACT

An Analysis of The Causes of Defective Products Using The Six Sigma Method in Main Bearing Case Production

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PT. Surya Gemilang Engineering is a manufacturing company engaged in job orders and mass production. Based on the observation results, two causes of defects were found, namely defects before production and defects after production. This study aims to identify the causes of defects and evaluate the application of the Six Sigma method. The method used, namely Six Sigma, is used through the DMAIC (Define, Measure, Analyze, Improve, Control) stages to minimize defective products. From the analysis results, it is known that the percentage value of defects in human factors is 33.33%, machines are 33.33%, methods are 16.67%, and environment is 16.67%. Regarding the sigma value and DPMO, the DPMO calculation results are 2.49602, which are rounded to 2.50. From these problems, improvements are proposed using process activity mapping and value stream mapping, resulting in 23 activities. And the total initial lead time went from 1550 seconds to 1520 seconds. Thus, the process cycle efficiency increased to 49% from the previous 48.06%.

Keywords: Quality, Defect, Six Sigma, DPMO, PAM, VSM