

ABSTRAK

ANALISIS PENGENDALIAN KUALITAS PADA PRODUK AKI SEPEDA MOTOR DI PT. MCB DENGAN MENGGUNAKAN METODE *SIX SIGMA* DAN KAIZEN

Oleh

Naufal Muzaky

21416226201077

Program Studi Teknik Industri

Penelitian ini menganalisis pengendalian kualitas pada produk aki sepeda motor di PT. MCB menggunakan metode Six Sigma dan Kaizen. Permasalahan utama yang dihadapi adalah tingginya tingkat cacat produk, khususnya di Departemen Produksi 5, yang melebihi standar cacat perusahaan sebesar 0,27%. Untuk mengatasi permasalahan ini, penelitian menerapkan metode Six Sigma dengan pendekatan DMAIC (Define, Measure, Analyze, Improve, Control) guna mengidentifikasi faktor penyebab cacat dan meningkatkan kualitas produksi sementara metode Kaizen diterapkan untuk perbaikan berkelanjutan melalui konsep Kaizen Five M-Checklist dan Kaizen 6S Step Plan. Hasil penelitian selama pada bulan Juli hingga Desember 2024 menunjukkan bahwa nilai sigma yang didapatkan sebesar 4,83 Sigma dengan jenis cacat yang paling dominan yaitu OCV < 12,80V dengan persentase kontribusi tertinggi sebesar 26%. Melalui analisis diagram Fishbone ditemukan bahwa faktor manusia, metode kerja, mesin, material dan lingkungan menjadi penyebab utama kecacatan. Tahap improve dilakukan dengan mengusulkan perbaikan melalui pelatihan karyawan, menambah titik kontrol kualitas, perawatan mesin, audit terhadap perusahaan pemasok bahan baku dan mengatur suhu area produksi. Pada tahap control, dilakukan monitoring berkelanjutan untuk memastikan implementasi perbaikan berjalan efektif.

Kata Kunci: Aki Sepeda Motor, DMAIC, *Kaizen*, *Six Sigma*, Pengendalian Kualitas.

ABSTRACT

AN ANALYSIS OF QUALITY CONTROL ON MOTORCYCLE BATTERY PRODUCTS AT PT. MCB BY USING SIX SIGMA AND KAIZEN METHODS

By

Naufal Muzaky

21416226201077

Industrial Engineering

This study analyzes quality control in motorcycle battery products at PT. MCB uses Six Sigma and Kaizen methods. The main problem is the high rate of product defects, especially in Production Department 5, which exceeds the company's defect standard by 0.27%. To overcome this problem, the research applied the Six Sigma method with the DMAIC (Define, Measure, Analyze, Improve, Control) approach to identify the factors causing defects and improve the quality of production. The Kaizen method was also applied for continuous improvement through the concepts of Kaizen Five M-Checklist and Kaizen 6S Step Plan. The results of the study from July to December 2024 showed that the sigma value obtained was 4.83 Sigma, the most dominant type of defect, namely OCV < 12.80V, with the highest contribution percentage of 26%. Through the analysis of Fishbone's diagrams, it was found that human factors, working methods, machines, materials, and the environment are the main causes of disability. The improvement stage is carried out by proposing improvements through employee training, adding quality control points, machine maintenance, auditing of raw material supplier companies, and regulating the temperature of the production area. At the control stage, continuous monitoring is carried out to ensure that the implementation of improvements runs effectively.

Keywords: DMAIC, Kaizen, Motorcycle Battery, Six Sigma, Quality Control.