ABSTRAK

PT. ITS adalah salah satu perusahaan yang bergerak di bidang industri tekstil. Dalam proses produksinya, perusahaan belum bisa mencapai *zero defect*. Penelitian ini dilakukan untuk menganalisis data perusahaan berdasarkan produk cacat yang ada dengan pendekatan Six Sigma DMAIC. *Tools* yang digunakan adalah SIPOC diagram pada tahap *define,* Peta Kendali P pada tahap *measure,* Diagram Pareto dan Diagram *Fishbone* pada tahap *Analyze,* Serta alat implementasi Kaizen yaitu 5W+1H pada tahap *Improve*, dan pada tahap *control* dilakukan perhitungan ulang kapabilitas proses, sigma dan DPMO setelah revisi, serta saran saran pengendalian.

Setelah dilakukan pengolahan data, didapatkan nilai DPMO awal sebesar 15.052 dan nilai sigma (SQL) awal sebesar 3,67 sigma, serta nilai Cp sebesar 0,9398. Dari hasil analisis pareto, diketahui bahwa terdapat 3 jenis cacat yang paling dominan yaitu cacat Haze sebesar 48,8%, cacat FM sebesar 23,6%, dan cacat IV sebesar 21,2%. Dengan menggunakan *fishbone* diagram diketahui bahwa terdapat 4 faktor penyebab cacat yaitu faktor manusia, mesin, material, dan metode. Usulan perbaikan pun diberikan dengan menggunakan *tools* 5W+1H.

Setelah dilakukan perhitungan ulang, nilai DPMO turun menjadi 10.741,27, nilai sigma naik menjadi 3,80 sigma, dan nilai Cp naik menjadi 0,9570.

Kata kunci : Six sigma, DMAIC, DPMO, SQL

ABSTRACT

PT. ITS is one of the companies that engaged in the textile industry. In the production process, the company has not been able to achieve zero defect. This research was conducted to analyze company data based on existing defect product with Six Sigma DMAIC approach. The tools that being used in this research are SIPOC diagram at define stage, P Control Chart at measure stage, Pareto Diagram and Fishbone Diagram at Analyze stage, and Kaizen implementation tools 5W + 1H at Improve stage, and at control stage, process capability, revised sigma and DPMO was re-calculated, and control advice was given.

After the data was processed, the initial value of DPMO is known for 15.052 and initial value of sigma (SQL) is known for 3.67 sigma, and the value of Cp is known for 0.9398. From the result of pareto analysis, it is known that there are 3 types of the most dominant defects, there are Haze defect by 48.8%, FM defect by 23.6%, and IV defect by 21.2%. By using fishbone diagram, it is known that there are 4 factors that caused the defects, there are human, machine, material, and method factors. Proposed improvements were given using the 5W + 1H tools.

After re-calculation, the DPMO value drops to 10,741.27, the sigma value rises to 3.80 sigma, and the Cp value rises to 0.9570.

Keywords: Six Sigma, DMAIC, DPMO, SQL.