ABSTRAK

Fikri Ahmad Amirulloh. Pengendalian Kualitas pada Proses Produksi *Jersey* menggunakan *Statistical Quality Control* untuk Menurunkan Tingkat Kecacatan Produk (Studi Kasus: Angkasa Apparel) Dibimbing oleh Arief Suardi Nur Chairat, S.T., M.T.

Angkasa Apparel merupakan Usaha Mikro, Kecil, dan Menengah (UMKM) konveksi di Bekasi yang berfokus pada produksi *jersey*. Berdasarkan data produksi periode Juni 2025 - Mei 2026, tingkat kecacatan produk rata-rata mencapai 13,87% dari total produksi 2.120 pcs, melampaui batas toleransi internal perusahaan sebesar 10%. Penelitian ini bertujuan untuk menganalisis kondisi pengendalian kualitas pada proses produksi *jersey* menggunakan pendekatan *Statistical Quality Control* (SQC), mengidentifikasi jenis kecacatan yang paling dominan, menganalisis faktor-faktor penyebab kecacatan, serta menyusun usulan perbaikan untuk menurunkan tingkat kecacatan produk. Penelitian ini merupakan penelitian deskriptif kuantitatif dengan pendekatan studi kasus, yang mengintegrasikan *Old Seven Tools* (*check sheet*, peta kendali, histogram, diagram Pareto, *fishbone diagram*) dan *New Seven Tools* (*interrelationship diagram, tree diagram*). Hasil penelitian menunjukkan bahwa proses produksi berada dalam kondisi terkendali secara statistik (*in-control*) dengan Garis Pusat (CL) sebesar 13,87%, namun nilai tersebut tergolong tinggi karena bersumber dari variasi umum (*common causes*) yang bersifat sistemik. Diagram Pareto mengidentifikasi cacat *press* (40,82%) dan cacat cetak (30,27%) sebagai dua jenis kecacatan dominan dengan kontribusi kumulatif sebesar 71,09%. Analisis *fishbone diagram* dan *interrelationship diagram* menemukan faktor penyebab utama berupa kecepatan cetak yang tidak terstandar, penanganan tinta yang tidak tepat, ruangan produksi yang berdebu, kurangnya pelatihan operator, ketiadaan *preventive maintenance*, belum adanya Instruksi Kerja parameter suhu dan waktu *press*, serta suhu area kerja yang tinggi. Berdasarkan tujuh *root cause* yang teridentifikasi melalui *tree diagram*, disusun usulan perbaikan menggunakan kerangka 5W+1H berupa penyusunan instruksi kerja, program pelatihan dan dokumentasi standar teknis, SOP *preventive maintenance*, serta sistem pengendalian suhu area kerja, guna menurunkan tingkat kecacatan produk *jersey* secara berkelanjutan.

Kata kunci: *Statistical Quality Control*, pengendalian kualitas, kecacatan produk, *jersey.*

ABSTRACT

Fikri Ahmad Amirulloh. *Quality Control in the Jersey Production Process Using Statistical Quality Control to Reduce Product Defect Levels*
(Case Study: Angkasa Apparel).
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Angkasa Apparel is a small and medium-sized convection enterprise (UMKM) located in Bekasi that focuses on jersey production. Based on production data from June 2025 to May 2026, the average product defect rate reached 13.87% of a total production of 2,120 pieces, exceeding the company's internal tolerance limit of 10%. This study aims to analyze the condition of quality control in the jersey production process using the Statistical Quality Control (SQC) approach, identify the most dominant type of defect, analyze the factors causing defects, and formulate improvement proposals to reduce the product defect rate. This research is a quantitative descriptive study with a case study approach, integrating the Old Seven Tools (check sheet, p-control chart, histogram, Pareto diagram, fishbone diagram) and the New Seven Tools (interrelationship diagram, tree diagram). The results show that the production process is statistically in control, with a Center Line (CL) of 13.87%; however, this value is considered high because it originates from systemic common causes rather than assignable causes. The Pareto diagram identified press defects (40.82%) and printing defects (30.27%) as the two dominant defect types, contributing a cumulative 71.09% of total defects. The fishbone diagram and interrelationship diagram analyses revealed the key causal factors, namely non-standardized printing speed, improper ink handling, a dusty production room, insufficient operator training, the absence of preventive maintenance, the lack of a written work instruction for press temperature and duration parameters, and high working-area temperature. Based on the seven root causes identified through the tree diagram, improvement proposals were formulated using the 5W+1H framework, consisting of the development of work instructions, training and technical-standard documentation programs, a preventive maintenance SOP, and a working-area temperature control system, in order to sustainably reduce the jersey product defect rate.

Keywords: *Statistical Quality Control, quality control, product defects, jersey.*