

ABSTRACT

What is the problem? This study examines the high defect rate in the production of baby carrier bags at HF Mandiri from October 2024 to February 2025. Although the daily capacity remained at 50 units, the defect proportion increased from 8.23% to 11.08%, exceeding the 10% tolerance limit. The study uses production data, inspection records, and workplace observations as inputs. The output is a set of quality improvement recommendations and an evaluation of their implementation.

Why is the topic interesting or important? The rising product defects increase costs and reduce customer satisfaction. This situation highlights a quality gap in production that needs to be addressed. The research applies the DMAIC approach for quality improvement in the garment workshop.

What is the solution? The solution involves identifying defect types and using SIPOC to map the production flow and locate stages with frequent defects. A P-Chart and DPMO establish the baseline, while a Pareto diagram identifies dominant defects. A fishbone diagram and 5 Whys help find root causes. Four actions were applied: adding standard lighting, new SOP posters, regular replacement of needles and cutters, and assigning QC in production areas.

Result. Results show the DPMO dropped from 33,730.03 to 12,777.78 and the sigma level rose from 3.33 to 3.73, proving the solutions effectively improved quality.

Keywords: DMAIC, convection, sigma, DPMO