

ABSTRAK

Meningkatnya jumlah cacat kain pada PT. Listex Prima selama tiga tahun terakhir menjadikan performa perusahaan menurun dari segi produksi. Data yang diperoleh adalah data defek pada periode Desember 2019 hingga Januari 2023 dari data internal perusahaan, sedangkan data *waste* didapatkan dengan *waste assessment questionnaire* dan *waste relationship matrix*. Metode DMAIC menjadi metode utama pada penelitian ini, dimulai dari mendefinisikan masalah dan mengukur kapabilitas proses berdasarkan defek, dilanjutkan dengan WRM dan WAQ untuk analisa jenis *waste*, dan akar masalah pada defek dan *waste* dianalisa dengan *fishbone diagram*. Hasil penelitian ini menunjukkan jenis defek terbanyak adalah bolong, putus benang, dan jarum patah, sedangkan jenis *waste* yang terjadi adalah *waiting*, *overprocessing*, *defects*, dan *overproduction*. Akar masalah yang terjadi adalah tidak ada prosedur QC untuk bahan baku, prosedur mengoperasikan mesin, dan prosedur inspeksi berkala. Dengan memberikan usulan perbaikan dan implementasi perbaikan, didapatkan kesimpulan adanya pengurangan biaya produksi hingga 4%, peningkatan efisiensi kerja hingga 2,48%, dan *manufacturing lead time* hingga 35,98%.

Kata Kunci : Biaya Produksi, Lean Six Sigma, Pemborosan, Defek, Kain.

ABSTRACT

The increasing price of raw materials and the decrease in the number of requests to PT. Listex Prima have a significant impact on the profitability of the company. This research was conducted at PT. Listex Prima, a knitting company in the textile industry. This study aims to reduce the total cost of raw materials needed by analyzing the causes of defects and waste that directly affect costs. The data obtained is defect data from January 2022 to February 2022, while the waste data is obtained with a waste assessment questionnaire. The DMAIC method became the main method in this study, started from defining problems and measuring process capabilities based on defects, followed by WRM and WAQ for waste type analysis, and finally the root problems in defects and waste analyzed with fishbone diagrams. The results of this study showed that the most common types of defects were dilapidated, broken threads, and broken needles, while the types of waste that occurred were waiting, overprocessing, defects, and overproduction. The root of the problem is that there are no QC procedures for raw materials, machine operating procedures, or periodic inspection procedures. By providing a proposed improvement, production cycle efficiency increased by 11.22%, resulting in a decrease in manufacturing lead time of 15.13% and an increase in profitability of up to 6.17%.

Keywords: *Production Cost, Lean Six Sigma, Waste, Defects, Fabric.*