

ABSTRAK

PENERAPAN *LEAN MANUFACTURING* DALAM UPAYA MENINGKATKAN EFISIENSI PRODUKSI DI PT LRS (*LEN RAILWAYS SYSTEM*)

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Penelitian ini bertujuan untuk meningkatkan efisiensi proses produksi *Main Aspect Power Line Module* di PT Len Railway Systems (LRS) melalui penerapan metode *Lean Manufacturing* dengan pendekatan *Value Stream Mapping* (VSM). Permasalahan utama yang diidentifikasi adalah adanya aktivitas non-nilai tambah (*Non-Value Added/NVA*) dan pemborosan (*waste*) dalam proses produksi, yang berdampak pada keterlambatan pengiriman produk. Penelitian ini dilakukan melalui observasi langsung, wawancara, dan kajian literatur. Hasil analisis menunjukkan bahwa total *lead time* produksi sebelum perbaikan sebesar 9.274,93 detik dapat dikurangi menjadi 6.637,34 detik setelah penerapan *lean*, atau mengalami pengurangan sebesar 2.637,59 detik. Selain itu, waktu aktivitas *Non-Value Added* berhasil dikurangi dari 1.245,53 detik menjadi 0 detik, sementara aktivitas *Value Added* tetap sebesar 3.384,13 detik. Penerapan *lean manufacturing* dengan identifikasi *waste* dan perancangan *future state* VSM terbukti mampu meningkatkan efisiensi waktu produksi secara signifikan. Dengan demikian, strategi perbaikan ini diharapkan dapat memberikan dampak positif terhadap peningkatan produktivitas dan daya saing perusahaan.

Kata Kunci : *Lean Manufacturing*, *Value Stream Mapping* (VSM), Efisiensi Produksi, *Waste* (Pemborosan)

ABSTRACT

IMPLEMENTATION OF LEAN MANUFACTURING IN AN EFFORT TO INCREASE PRODUCTION EFFICIENCY AT PT LRS (LEN RAILWAYS SYSTEM)

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This study aims to improve the production efficiency of the Main Aspect Power Line Module at PT Len Railway Systems (LRS) through the implementation of the Lean Manufacturing method using the Value Stream Mapping (VSM) approach. The main problem identified is the presence of non-value-added (NVA) activities and waste in the production process, which results in delays in product delivery. The research was conducted through direct observation, interviews, and literature review. The analysis results indicate that the total production lead time before improvement, which was 9,274.93 seconds, was reduced to 6,637.34 seconds after the implementation of lean, representing a reduction of 2,637.59 seconds. Additionally, the time for non-value-added activities was successfully reduced from 1,245.53 seconds to 0 seconds, while the value-added activities remained at 3,384.13 seconds. The implementation of lean manufacturing through waste identification and the design of a future state VSM has proven to significantly improve production time efficiency. Therefore, this improvement strategy is expected to positively impact the company's productivity and competitiveness.

Keywords : *Lean Manufacturing, Value Stream Mapping, Product Efficiency, Waste*