ABSTRAK

Pada perusahaan *manufacture automotive* ditemukan *waste* yang menyebabkan efisiensi dan efektivitas proses produksi hanya 84%. Kendala yang dihadapi adalah tidak tercapainya target produksi yang sudah ditetapkan perusahaan yaitu sebesar 93%. Penelitian ini bertujuan untuk mengeliminasi *waste* pada proses produksi dengan memberikan rekomendasi perbaikan dan simulasi hasil perbaikan. Langkah awal dilakukan identifikasi proses produksi dan *waste* menggunakan *Value Stream Mapping* (VSM), dan *Waste Assessment Model* (WAM). Berdasarkan WAM yang di visualisasikan dengan *diagram fishbone* terdapat *waste* yang berasal dari 4M yaitu *man*, *mother nature*, *method* dan *machine*. Untuk mendapatkan hasil Selanjutnya adalah dengan pemetaan *waste* dengan *Value Stream Analysis Tools* (VALSAT) menggunakan *Process Activity Mapping* (PAM) yang diketahui terdapat beberapa aktivitas operasi *Value Added* (VA) dan *Necessary But Non Value Added* (NNVA). Kemudian dilakukan analisis akar masalah dengan *Root Cause Analysis* (RCA) 5 *Whys* dan analisis perancangan rekomendasi perbaikan menggunakan *tool* RCA 5W+1H. Menghasilkan aktivitas rekomendasi perbaikan yang disimulasikan dengan *software* promodel, diketahui terdapat penurunan total *lead time* dari 96,27 detik menjadi 83,94 detik dengan menghilangkan 2 kegiatan aktivitas NNVA, dan diketahui hasil simulasi dengan total *exit* entitas *throttle body assy finish goods* adalah sebanyak 2.632 pcs.

Kata kunci: *Lean Manufacturing*, *Value Stream Mapping* (VSM), *Waste Assessment Model* (WAM), *Value Stream Analysis Tools* (VALSAT), *Root Cause Analysis* (RCA), Simulasi Promodel.

ABSTRACT

In manufacturing automotive companies, waste is found which causes the efficiency and effectiveness of the production process to only 84%. The obstacle faced is not achieving the production target that has been set by the company, which is 93%. This study aims to eliminate waste in the production process by providing recommendations for improvements and simulating the results of improvements. The first step is to identify the production process and waste using Value Stream Mapping (VSM), and Waste Assessment Model (WAM). Based on WAM which is visualized with a fishbone diagram, there are wastes that come from 4M, namely man, mother nature, method and machine. To get the next result is waste mapping with Value Stream Analysis Tools (VALSAT) using Process Activity Mapping (PAM) which is known to have several Value Added (VA) and Necessary But Non Value Added (NNVA) operations. Then the root cause analysis was carried out using the 5 Whys Root Cause Analysis (RCA) and analysis of design recommendations for improvement using the RCA 5W+1H tool. Resulting in recommendations for improvement activities simulated with promodel software, it's known that there is a decrease in the total lead time from 96.27 sec to 83.94 sec by eliminating 2 NNVA activities, and it's known that the simulation results show that the total exit entity throttlebody assy finish goods is 2,632 pcs.

Keyword: Lean Manufacturing, Value Stream Mapping (VSM), Waste Assessment Model (WAM), Value Stream Analysis Tools (VALSAT), Root Cause Analysis (RCA), Promodel Simulation.