

ABSTRACT

The main challenge for companies today is how to increase competitiveness through optimizing production processes and reducing operational costs without reducing product quality. This study aims to optimize the production process of daily uniforms (PDH) at Umega Konveksi by applying the Lean Manufacturing concept and simulation using FlexSim software. The main problem faced by the company is the high level of Waste, especially in waiting activities caused by raw material waiting times, embroidery processes, and buttonholes carried out by external partners. The methodology used includes Value Stream Mapping (VSM) to map production flows, Process Activity Mapping (PAM) to identify value-added and non-value-added activities, and fishbone diagrams to find the root causes of Waste. The production system model is simulated using FlexSim to evaluate and compare improvement scenarios. The results of the study show that the application of a combination of VSM, PAM, and FlexSim simulation is able to identify bottlenecks and reduce process time and production Lead Time significantly. Proposed improvements include adding machines and optimizing workflows resulting in better operational efficiency. This study proves that the integration of lean and simulation approaches can provide strategic solutions for MSMEs in convection in increasing competitiveness and production effectiveness.

Keywords: Lean Manufacturing , Value Stream Mapping (VSM), Process Activity Mapping (PAM), FlexSim, Operational Efficiency, MSMEs in Convection.