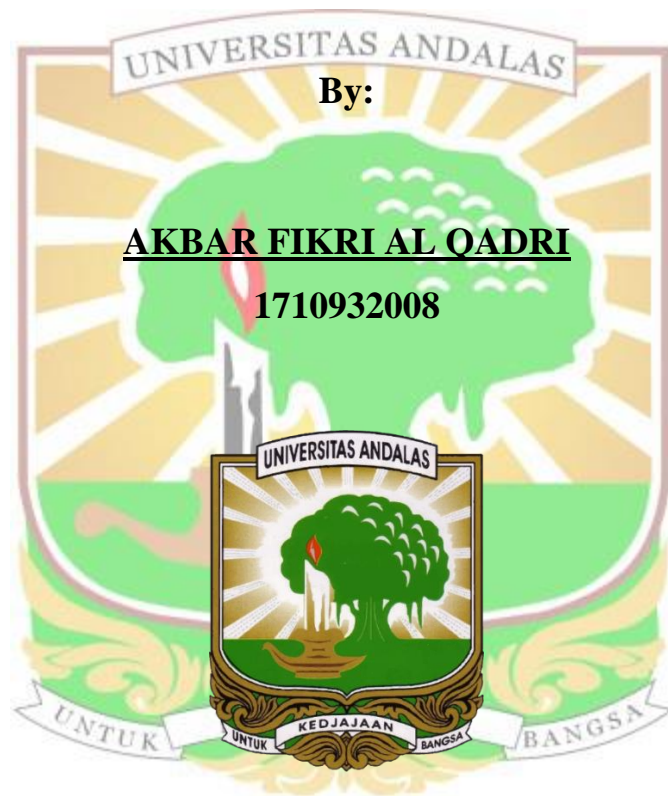


**LEAN MANUFACTURING APPROACH TO ENHANCE
EFFICIENCY IN SOY BASED FOOD PRODUCTS
(CV. USAHA JAYA)**

FINAL PROJECT



**INDUSTRIAL ENGINEERING DEPARTMENT
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2024

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*As One Of The Requirements To Complete The Bachelor's Program In The Industrial
Engineering Department Of The Faculty Of Engineering At Andalas University*



**INDUSTRIAL ENGINEERING DEPARTMENT
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ABSTRACT

Small and Medium Enterprises (SMEs) hold immense significance in Indonesia's economic landscape, with nearly 97% of Indonesian industry being SMEs, these SMEs are contributing substantially to employment generation, fostering innovation, and driving economic growth. West Sumatra boasts a thriving ecosystem of over 4,000 cooperatives and 593,100 Small and Medium Enterprises (SMEs), predominantly oriented towards the domestic market and encompassing a diverse range of industries such as snacks, handicrafts, garment manufacturing, embroidery, and workshops. However, within this landscape, SMEs in the food sector, particularly those engaged in tofu production, play a pivotal role in the regional economy. Tofu manufacturing stands out as a cornerstone of West Sumatra's culinary heritage, with the average weekly per capita consumption of tofu is 0.124 kg. This consumption pattern underscores the integral role of tofu in local cuisine and dietary habits, reflecting its cultural and nutritional significance

CV Usaha Jaya Tofu manufacturing company situated at Jl. Puding Mas Tabek Gadang, Aur Birugo Tigo Baleh, Bukittinggi, CV Usaha Jaya faces common challenges encountered by traditional SMEs, including inefficiencies in production processes, suboptimal inventory management practices, and disorganized workspaces. These challenges can impede operational effectiveness, hinder quality control efforts, and limit the enterprise's ability to compete effectively in the market.

This study aims to guide CV. Usaha Jaya into implementing lean manufacturing methods, CV Usaha Jaya can leverage lean manufacturing principles, incorporating tools such as Value Stream Mapping (VSM) and the 5S methodology. VSM offers a systematic approach to analyzing the entire tofu production process, identifying areas of waste, bottlenecks, and opportunities for improvement. Current state VSM of CV. Usaha reveals the inefficiency during the production process. The process are then analyzed using FMEA to identify the priority risk to be focused on. RPN scores reveals that Boiling and Filtering process are the main contributor to the overprocessing and waiting time during the production process with RPN score of 80 & 72 respectively. Fishbone diagram is used to identify the root cause of waste by said process and by systematically applying the 5S principles, CV Usaha Jaya can create a lean, efficient, and sustainable production environment, leading to improved competitiveness, streamlined material flow and efficient workstations. Future state VSM illustrates the improvements after the implementation which boasting a ~20% increase in efficiency.

Keywords : Tofu, Lean Manufacturing, Value Stream Mapping, Waste, Efficiency