

ABSTRACT

This study explores the application of Lean Six Sigma (LSS) using the DMAIC methodology in improving the operational efficiency of CV Aneka Sumber Rezeki, an Indonesian SME in the Food and Beverage sector specializing in cassava chips production. The research addresses critical challenges, including production inefficiencies, product quality inconsistencies, and cost management issues, which hinder the company's ability to compete in a dynamic market.

Through a mixed-methods approach, quantitative and qualitative data were gathered and analyzed using tools such as Pareto Charts, Capability Analysis, and I-MR Charts. The findings revealed there were inefficiencies in key production processes, with high variability in cycle times and frequent deviations from quality standards. These insights informed targeted interventions, including the development of Standard Operating Procedures (SOPs) and the establishment of Key Performance Indicators (KPIs), which effectively reduced variability and improved production consistency.

Post-implementation analysis demonstrated measurable improvements in process stability, with increased capability indices and reduced defect rates, aligning production outcomes with market demands. This study highlights the potential of LSS to drive cost-effective and high-impact improvements in SMEs, providing a replicable framework for similar enterprises in resource-constrained environments. The results emphasize the adaptability of LSS in addressing operational challenges within the SME context, contributing to enhanced competitiveness and sustainability.

Keywords : Lean Six Sigma, DMAIC, SME, F&B Industry