

ABSTRACT

The distribution of 3kg LPG by PT. Artha Patra Kesuma is crucial in ensuring access to subsidized fuel for the public. However, the process faces significant challenges, including payment delays, quota mismatches, and inefficiencies in uploading payment proofs. These issues not only hinder operational efficiency but also negatively impact customer satisfaction. To align with Pertamina's digital transformation objectives, this research evaluates the readiness and effectiveness of digitalizing the 3kg LPG distribution process using the Lean Six Sigma DMAIC framework.

This study focuses on improving the digitalization process by identifying and addressing inefficiencies in the distribution system. The DMAIC framework was applied to minimize operational errors, enhance efficiency, and improve customer satisfaction. Additionally, this approach offers a replicable model for industries aiming to adopt digital solutions.

The research utilized qualitative methods, analyzing customer complaints and conducting in-depth interviews with stakeholders. Tools such as Value Stream Mapping were employed to identify bottlenecks, Fishbone Diagrams to uncover root causes, and Poka Yoke mechanisms to prevent recurring errors. Furthermore, a real-time control dashboard was designed to monitor performance and ensure the sustainability of improvements.

The findings show that integrating Lean Six Sigma with disruptive technologies significantly enhances operational efficiency. Automation accelerated the uploading of payment proofs, and data-driven systems minimized quota mismatches. The control dashboard facilitated proactive issue resolution, reducing customer complaints and improving service quality.

This research contributes to Pertamina's digital transformation goals while providing a scalable model for similar industries. PT. Artha Patra Kesuma achieved enhanced operational efficiency and customer satisfaction. Future recommendations include adopting advanced technologies, implementing continuous training programs for employees, and expanding the dashboard's capabilities for enhanced data analysis and strategic decision-making.

Keywords: *Lean Six Sigma, DMAIC, Digitalization, LPG Distribution, Disruptive Technologies.*