

Abstract

Dwelling time, or the time containers spend at the port, is a key metric for assessing operational efficiency. Surabaya Container Terminal experiences dwelling times that exceed global industry standards, potentially disrupting cargo delivery and increasing operational costs. This study aims to analyze the causes of dwelling time delays at Surabaya Container Terminal and to develop and test improvement strategies to optimize container dwell time to meet the government's one-day target. The research involves a thorough analysis of the terminal's business processes and information systems, focusing on discrepancies between port SOPs and data logs. Process Mining techniques are applied to identify Bottlenecks in processes such as document inspection and container handling. Subsequently, improvement strategies are developed and tested to evaluate their impact. The analysis reveals that discrepancies between SOPs and data logs, along with Bottlenecks in several key process stages, significantly contribute to dwelling time delays. Implementation of improvements, including SOP adjustments and process optimization, results in a significant reduction in dwelling time during trials. Enhancements to SOPs and operational processes prove effective in reducing dwelling time, supporting the achievement of government targets, and improving operational efficiency at Surabaya Container Terminal. These findings offer important contributions to logistics management practices and can serve as a reference for other ports facing similar issues.

Keyword: Dwelling time, operational efficiency, port SOPs, Process Mining, Surabaya Container Terminal.