

The Applicability of Lean Maintenance in the Container Handling Industry

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Abstract

Maintenance management is a critical factor for any organization wants to maintain its global competitive advantage. Demonstrating maintenance excellence to implement best maintenance practice in any industry is inevitable. Moreover lean maintenance is considered to be an effective tool aiming at detecting maintenance wastes and improve it. This research investigates the effect of using lean practices/tools on equipment maintenance. A case study was performed starting with the assessment of Suez Canal Container Terminal one of APM terminals using Tompkins method for maintenance excellence. Subsequently, an analysis of the company historical data was made to identify the most critical processes. After, the intervention focused on improving a specific process problem following the FMEA analysis and PDCA cycle as. Both tools have proved to be effective. FMEA analysis resulted in optimizing terminal tractors PM procedures and PDCA cycle achieved 81% cost saving in tractors transmission PM cost per one operational hour.

Keywords

Container Handling, lean maintenance, Tompkins method, maintenance excellence, reliability-centered maintenance, asset management, maintenance management, FMEA technique, PDCA cycle