IMPROVING OVERALL EQUIPMENT EFFECTIVENESS OF INJECTION MOLDING MACHINES BY ENHANCING THE MAINTENANCE MANAGEMENT SYSTEM: CASE STUDY AT INJECTION MOLDING COMPANY

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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As an Injection Molding company that supplies parts for several automotive companies in Indonesia, PT. Takagi Sari Multi Utama (“TSC”) is demanded to always produce flawless products with high production rate. However, product delivery lateness still can be found several times due to the company is unable to meet the production target. Six Steps of Kaizen is being used as a guidance to continuously improving productivity. Based on Ishikawa Diagram as a root-cause analysis tool, unscheduled downtime, speed loss, and defect which is the highest factor that affect the production target to not being achieved. Failure mode, effect, and Criticality Analysis is used to determine the most critical part of the machine. The time between failure with their respective distribution of the injection machine is being calculated to obtain the most effective maintenance interval. By doing a preventive maintenance strategy, the Overall Equipment Effectiveness for small machine category is increased from 83.01% to 85.40%, medium machine category increased from 79.20% to 83.29%, and large from 85.31% to 86.51%.

Keywords: Overall Equipment Effectiveness, Six Steps of Kaizen, Time Between Failure, Ishikawa Diagram, Failure Mode, Effect, and Criticality Analysis

DEDICATION

I dedicated this thesis to my family for their love & affection.

To all my friends, who always there for me.

To all lectures who always guide me during my study.

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