

**LAUNDRY SYSTEM OPTIMIZATION ON AN IN-FLIGHT SERVICE  
COMPANY**

By

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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

### LAUNDRY SYSTEM OPTIMIZATION ON AN IN-FLIGHT SERVICE COMPANY

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Travelling using airplane is very common nowadays. Many people prefer airplane as it is more convenient and does not take long time to travel. Comfortability has a significant role in an airplane, such as blankets and pillows. Blankets and other in-flight materials are being laundered in an in-flight service company. This research aims to find an optimal schedule for an in-flight service company located in Soekarno Hatta International Airport Area, Tangerang, Indonesia. In addition, it helps the company for making decision on purchasing additional machines. The methodology used in this thesis are linear programming with assignment and transportation model, scheduling, and simulation to prove the result of optimization. The optimization is conducted using Microsoft Excel Solver and the simulation used a program called as Tecnomatix Plant Simulation. After the optimization is finished, simulation model development is required to check the validity and whether it is applicable for the laundry system within the company. The result of this research shows the company needs to buy more additional machines to meet the customers' requirement and the productivity level is increased.

*Keywords: Laundry System Optimization, Linear Programming, Discrete Event Simulation, Transportation Model, Scheduling.*



## **DEDICATION**

I dedicate this thesis works for my beloved family.



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