

**IMPROVING PRODUCTIVITY OF APC2 LINE OF PT. MERCEDES-BENZ
INDONESIA BY APPLYING LINE BALANCING AND SIX SIGMA**

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 neither 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

IMPROVING PRODUCTIVITY OF APC2 LINE OF PT. MERCEDES-BENZ INDONESIA BY APPLYING LINE BALANCING AND SIX SIGMA

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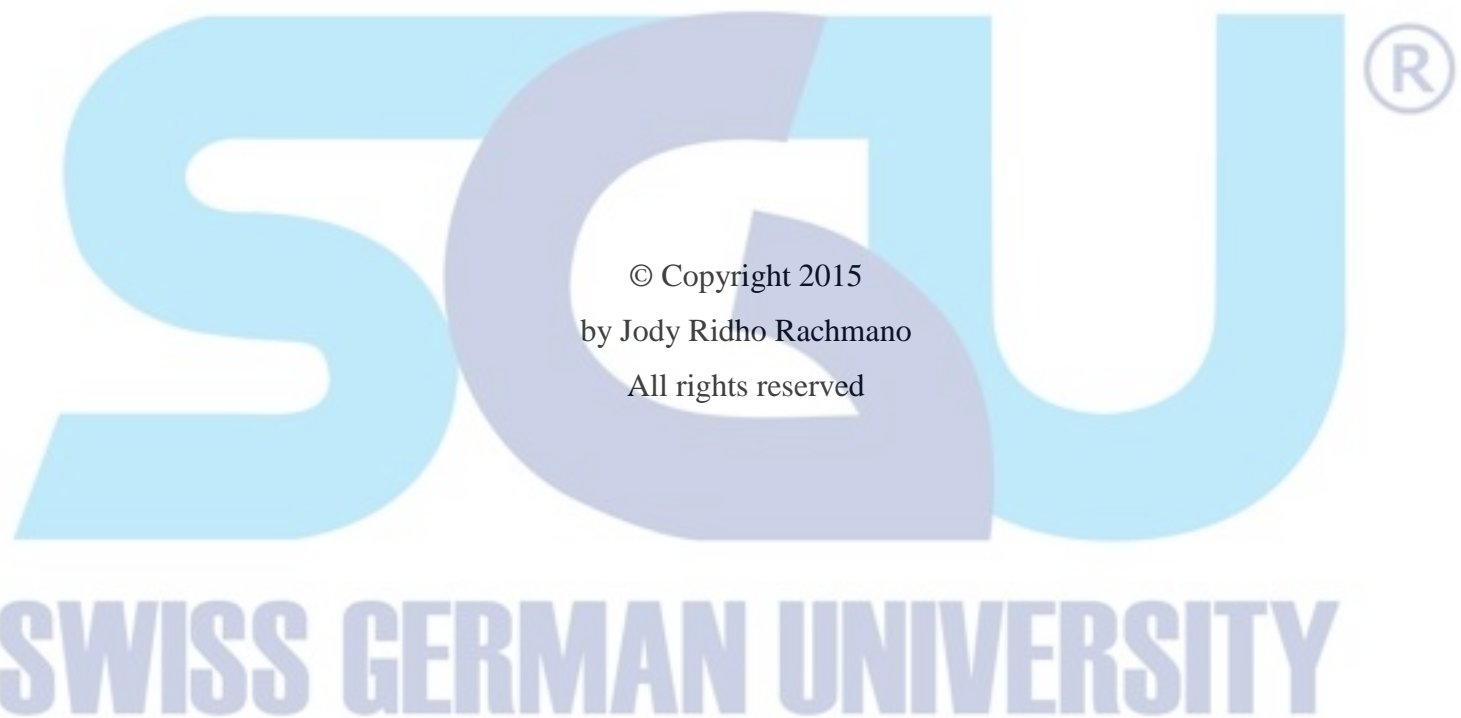
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Six Sigma is a framework that is used to improve effectiveness and efficiency. The effectiveness of an assembly line could be measured by looking at the capability of the assembly line to achieve production target whereas the efficiency of an assembly line could be measured by looking at the capability of the assembly line to process parts within takt time. However, problem occurs in the assembly line and thus making it unable to achieve production target and process parts within the desired takt time. The DMAIC Methodology is done to find the root causes of the problem, which are shortage of material and uneven workload distribution. The solution to the shortage of material root cause is to make improvements in Material Requirement Planning (MRP) whereas the solution to the unbalance workload among station is to perform Assembly Line Balancing. The Assembly Line Balancing is also done and proven that it can solve the problem by reducing cycle time and thus increasing throughput. The result of Assembly Line Balancing is simulated to determine the long-term output.

Keywords: Effective, Efficient, Six Sigma Framework, DMAIC Methodology, Assembly Line Balancing, Simulation



DEDICATION

I dedicate this thesis for my parents, friends, and anyone who might benefit from this thesis.



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