ANALYZING PERFORMANCE OF A PRODUCTION LINE BY IMPROVING PLANT LAYOUT DESIGN: A CASE STUDY IN PT. SATYARAYA KERAMINDO INDAH

by

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BACHELOR'S DEGREE
in

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August 2016

Revision after the Thesis Defense on July 18th, 2016

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

Analyzing Performance of A Production Line by Improving Plant Layout Design:
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Satisfying the customer by fulfilling their demand has to be done by every company that produce a product or service. Expanding the facilities is a step towards fulfilling the demand. However, expanding facilities without proper planning could result in a disorganized layout. As a tile manufacturer, PT. Satyaraya Keramindo Indah receives many complaints from their customer about the quality of the tiles. This research is carried out by following the steps of the DMAIC, Define-Measure-Analyze-Improve-Control model. Problems of this research will be explained in the Define phase. In Measure phase, all data will be gathered using observation and interview. Then, it will be measured by simulating the performance of the current layout using Tecnomatix and layout assessment using Activity Relationship Analysis. The result will then be analyzed in the Analyze phase using gap analysis and cause effect analysis. A layout improvement made by using SLP method is proposed in the Improve phase. Performance of the layout improvement will also be simulated using Tecnomatix and the result will be compared to the current layout. Result shows that the current layout is disorganized and the proposed layout will improve the productivity and reduce the overall production cost. Lean manufacturing approach will also be implemented to hopefully remove wastes from the layout and further improve the productivity of the layout.

Keywords: Layout Design, DMAIC, Productivity, Lean Manufacturing

DEDICATION

I dedicate this work to my parents and my sister,
who have given me all the supports I need,
and to my lecturers in Industrial Engineering,
who have taught me nothing but important lessons.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank the God Almighty Allah SWT for the strengths and blessings given to me during my studies and completion of this work.

I also thank my family, my mother, father, and sister for the relentless support you all have given to me. I will not be where I am today without any of your help. I also express my gratitude towards my thesis advisors, Ms. Triarti Saraswati and Mr. Setijo Awibowo. Thank you for your unwavering trust, patience, guidance, and supports towards me during my whole studies and the completion of this work.

A special thank you to Reno, King, Naomi, Ogi, Juntiaw, Aud, and Fika for all day and night we spent together while doing our works. Thank you for helping me finish my work and thank you for the distractions that make the progress of this work longer than it should be.

Last but not least, I would like to thank my friends from Industrial Engineering batch 2012 for the last 4 years we spent together. Thank you for all the memories. I am honored to call all of you my friend. I love you all.

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