| Thesis Title | A Productivity Improvement for the Packing Line |
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Abstract

This research is aimed at increasing productivity and efficiency in the packing process of cookware industries by redesigning the production line in order to meet customer demand. Based on numerical analysis, the cycle time of the packing line should be at 6 second instead of 9 second as it is. In addition, as-is packing line consumes 23 workers and balance efficiency is only at 46.49 percent. Moreover, this packing line is 36 meter long and it is considered lengthy due to the fact that only one side of the conveyor is utilized while the other side is used for setting up the next packing. Therefore, an improvement study must be done and it is worthwhile.

To systematically balance the packing line, algorithms such as Kilbridge and Wester's Method and Ranked Positional Weighted method are applied and the results from both algorithms are compared. It is found that both algorithms offer the same solution and the balance efficiency is increased to 86.66 percent with a shorter conveyor line and lower workers. In details, the redesign packing line uses only 19 workers with 25 meter in length. As a result, the productivity can be calculated at 31 boxes per worker per hour and it is increased around 116.33 percent.

Keywords: Productivity / Line Balance / Efficiency