

## ABSTRACT

This case study is about a buckle manufacturer who produces the product inefficiently which led to defect occurrences in the production process. These defect occurrences negatively affected profit, revenue and sale opportunity of the company. With the use of the DMAIC model, a solution could be developed to reduce the problem substantially.

BB Company has defect occurrences causing in the production process. As the analysis of the defect value data from January to December 2014 of BB Company showed that the highest defect value came from the plating process that totaled THB 456,830 or 85% of the total defects in production process based on Pareto analysis. There are two major defect types occurring from the plating. These are peeled off and burnt buckles. The total value of these two defect types is THB 412,715 or 92% of the total defect value in plating process. Thus this study focused on solving the problem of the defects types of peeled off and burnt buckles which is the top value of defect occurrences in the plating process. After root causes was revealed, the improvements are developed to reduce and prevent defect occurrences in order to increase working efficiency. The work instructions, regulation and check sheet report were also provided as the solution. Moreover as a group discussion with relevant workers in order to ask the questions about the proposed improvements both of peeled off and burnt buckles whether they are appropriate for the current problems, the results of discussion show that solutions are effective and can be applied in the company to solve the problem of defect occurrences sustainably.

This study applied the DMAIC model to substantially reduce defect occurrences in the company. In addition, DMAIC can help the company gain better understanding of actual root causes by analyzing in depth and help to propose an effective improvement based on data and facts.