This case study is about a bakery manufacturer who produces products without awareness of work efficiency and defects. As a result, the company was faced with a high volume of defect occurrences in the production, which caused interruption into production efficiency and effectiveness and also raised the high unnecessary costs to the company.

The DMAIC concept to understand the root cause of the problem can be a form of guidance for the company to apply and implement which to help identify the root causes of defect occurrences based on data and facts which lead to improvement and to sustained defect reductions and controls of the defect recurrences. By analyzing all data from January 2013 to December 2013, it showed the packing process caused the highest defects in the 2013 by focusing on the top 80% value of defect occurrences in the packing process based on Pareto analysis. As a result, there are three items which were selected to be looked at filling bun, hotdog bun and fried bun. The total value of the top 3 items is THB 506,355.50. They contributed to 77.24% of the total packing process defects in the 2013. The cause and effect diagram was constructed for the purpose of revealing root causes for further analysis. After analyzing all the data, there are four major causes that contributed to defect occurrences which are cut off half, not in the center, not proper seal and drop. The effective solutions to reduce defect recurrences in the packing process are developed to improve the packing quality and to control the performance that was unable to minimize the reoccurrence of the defects as the to-be process provides work instruction, defect occurrence report, which needed to prevent the recurrence of defects that was a high cost to the company.

The study indicated that the proposed model can reduce defects of the company by applying the Define-Measure-Analyze-Improve-Control (DMAIC) concept which is focused on solving defect recurrence problems by improving underlying processes.