

**Six Sigma application for Cycle Time Reduction: Case Study of a  
Indian Gear Box Assembly Manufacturer**

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**Abstract**

The main purpose of the paper is to investigate and analyze the implementation of six sigma to reduce the cycle time of assembling a gearbox in a manufacturing company. DMAIC methodology i.e. (Define, Measure, Analyze, Improve and Control) has been applied along with various qualitative and quantitative tools to demonstrate the project improvement. The study outcome has shown substantial benefit to the company, including reducing the cycle time to 37.27 minutes from 131 minutes. The proposed model can be customized to suit the requirements of any manufacturing industry by modifying the contents and tools.

This study demonstrates a project in which Six Sigma is adopted to improve the cycle time. It describes how the project was specified, how the tools were employed in the different phases and how the improvement actions were implemented. This paper will be of interest to academic researchers and practice managers. This Six Sigma implementation project provides a good reference for other companies that plan to implement Six Sigma. Keywords Six Sigma, Quality management, Manufacturing industry, India