

## ABSTRACT

The quality of a product will be said to be good if the product has met the specifications that have been ditentutak. Quality is very important because in the world of manufacturing has changed very dramatically. XYZ is a company engaged in the automotive spare parts industry are made from metal. Companies need to implement quality improvement system is structured to address the high level of the percentage of defects in the product, particularly on products Rocker Outer Panel Reinforcement. Based on observational data during the study, the average percentage of defective products Rocker Outer Panel Reinforcement in PT XYZ is 1.4%. It shows the production process is not good because the target company is only 1% of products on disability. This study aims to determine the cause of the defect in the product Rocker Outer Panel Reinforcement and also provide usulan improvements to minimize the defect in the production process Rocker Outer Panel Reinforcement using Six Sigma methods.

The method used to control kualitas and can be applied to companies in minimizing the defective product is to use the Six Sigma method. The main principles of Six Sigma is to attain perfection (3.4 DPMO) with controlling the processes that occur. The stages in the implementation of Six Sigma is the Define, Measure, Analyze, Improve and Control.

The results showed that the production process Rocker Outer Panel Reinforcement can be said to be unstable because there are five of the twelve points of observation are out of control. Moreover, the production process Rocker Outer Panel Reinforcement has DPMO value for 2411 and 4318 at the level of sigma, which is the average performance of the industry in America. Factors causing the defect identified factors derived from tools, humans and machines. The corrective action taken is to improve existing tools according to production requirements, a check on the machinery and equipment.

Keywords: Six Sigma, Defect, DMAIC