ABSTRACT

A lot of industry manufacture in Indonesia have been a big problem. The problem is a product never been perfect or doesn't defect free. This situation makes every industry in Indonesia must to create strategy to increase quality for developing market. Market is a key factor to get a successful in business. Quality is foundation of decision factor by customer to choose product or service. Because of that, it's needed improvement and development of quality according to continuity that from management of industry.

That condition is also happen on PT. Aneka Banusakti. PT. Aneka Banusakti is a company with cylinder liner as a product. This product made for car spare parts. Customer of PT. Aneka Banusakti consist of automotive company, component distributor, and car service. Process production of this product consist three step, which is foundry, machining and packaging. One of type product which is PT. Aneka Banusakti produce is 4D34, this type used for Mitsubishi diesel car. The problem of PT. Aneka Banusakti is degree of defect from cylinder liner product too high, so expectation and satisfaction of customer can be decrease. Dimension of satisfaction customer is a presision of product size, where quality for product dimension consist inside diameter, outside diameter and total length.

One of improvement and increase of quality method is doing quality improvement project Six Sigma. Six Sigma method use a principal with integration between business, statistic and technical to achieve good result. Approximation process used in Six Sigma method is DMAIC consist Define, Measure, Analyze, Improve and Control. Define phase accomplished definition project goal and output from customer, measure phase accomplished to measure process for confirm performance on this time, analyze phase accomplished analyze and confirm root causes from all defect happen, improve phase accomplished plan process increase for decrease defect and control phase accomplished control process mechanism.

The result from this research is a new operating procedure. With this procedure all of unexpected root cause can be solved and degree of defect in the future decrease and not happen again. Improvement and development of quality with using Six Sigma method can give more benefit.

Keywords: Six Sigma, DMAIC, Cylinder Liner, DPMO, Sigma, FMEA (Failure Modes and Effect Analysis), Capability Process Indices, brainstorming