ABSTRACT

This research was conducted in one garment production company. Bag is one kind of product contained in PT. XYZ. Bag products have total production in the period of October 2016 to September 2017 as many as 17259 units and found a defect product of 497 units that can affect the quality of products in production. Based on company data from October 2016 to September 2017, there was a defect rate of 2.91%, while the defect limit was 2%. Therefore it is necessary to design improvements in the production process to make the existing defect will be reduced to below the company's tolerance limit.

In order to minimize defect, Six Sigma method with DMAIC stage is used, ie Define, Measure, Analyze, Improve, and Control. In the Define stage, a depiction of the SIPOC diagram is used to obtain or define the problem that occurs in the company that is defect. Then the Measure stage determines the CTQ and measures the stability and capability of the process known in the bag production process which is still unstable and produces an average sigma level of 3.89 σ. And at Analyze stage, analyzing from root cause of problem happened by using fishbone diagram tool, 5 why's, and FMEA for repair solution given to minimize the location of defect that most dominant happened to company in producing product is upper bag part not to close bag , ie in a way consisting of procurement display for the procedure of maintaining the work environment, the addition of cutting tools for cutting areas, as well as the addition of malls for sewing areas.

Keywords: Six Sigma, Defect , DMAIC, FMEA, the bags upper part is not closed